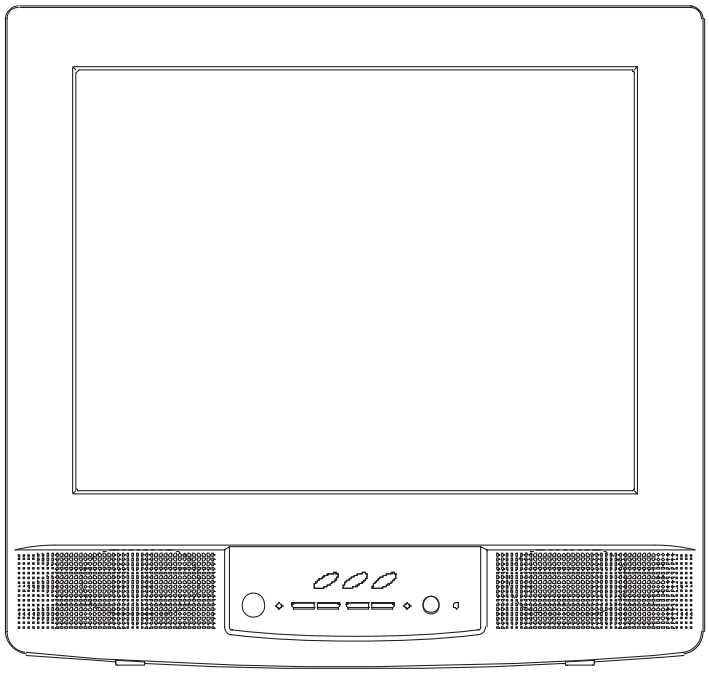
SYLVANIA

SERVICE MANUAL

15” COLOR LCD TELEVISION

6615LE



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

TABLE OF CONTENTS

Specifications 1-1
Important Safety Precautions 2-1
Standard Notes for Servicing 3-1
Cabinet Disassembly Instructions 4-1
Electrical Adjustment Instructions 5-1
Block Diagrams 6-1
Schematic Diagrams / CBA's and Test Points 7-1
Schematic Diagrams 7-3
CBA Views and Test Points 7-19
Waveforms 8-1
Wiring Diagram 9-1
Cabinet Exploded View 10-1
Packing Exploded View 10-3
Mechanical Parts List 11-1
Electrical Parts List 12-1

The LCD panel is manufactured to provide many years of useful life. Occasionally a few non active pixels may appear as a tiny spec of color. This is not to be considered a defect in the LCD screen.

SPECIFICATIONS

<TUNER>

ANT. Input ---------- 75ohm Unbal., F type
Reference Level----------20Vp-p (CRT Green Cathode)
Test Input Signal ----------400Hz 30% modulation

Description	Condition	Unit	Nominal	Limit
1. Intermediate Freq.	Picture Sound	MHz MHz	45.75 41.25	- -
2. Color Killer Sens.	CH-2 CH-10 CH-55	dBμV dBμV dBμV	15 15 15	20 20 20
3. AFT Pull In Range (10mV input)	-	MHz	±2.1	±0.7

<LCD PANEL>

Description	Condition	Unit	Nominal	Limit
1. Number of Pixels	Horizontal Vertical	pixels pixels	640 x 3 480	- -
2. Brightness		cd/m^2	450	-
3. Response Time	-	msec	16	-
4. Support Color	-	-	26mil.(6bit)	-
5. Viewing Angle	Horizontal Vertical	° °	-85 to 85 -85 to 70	-

<VIDEO>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	Horizontal Vertical	% %	5 5	- -
2. Color Temperature	- x y	°K	9200 0.286 0.294	- ±0.03 ±0.03
3. Resolution	Horizontal Vertical	line line	400 350	- -

<AUDIO>

All items are measured across 8Ω load at speaker output terminal with L.P.F.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	10% THD: Lch/Rch	W	1.0/1.0	0.8/0.8
2. Audio Distortion	500mW: Lch/Rch	%	1.0/1.0	4.0/4.0
3. Audio Freq. Response	–3dB: Lch –3dB: Rch	Hz Hz	50 to 12K 50 to 12K	- -

Note:
Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

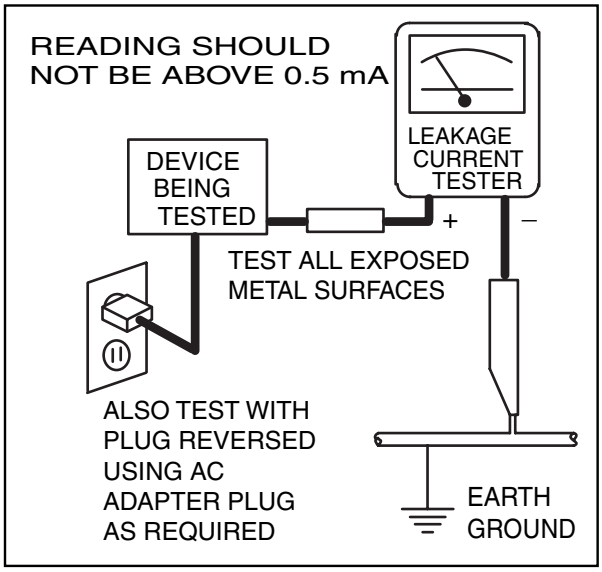
1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:

a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. **Antenna Cold Check -** With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. **Leakage Current Hot Check -** With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. **X-Radiation and High Voltage Limits -** Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servic-

ing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

5. **Hot Chassis Warning -**

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.

c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas:a. near sharp edges,b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts,c. the AC supply,d. high voltage, and,e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (⚠) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the (⚠) symbol are critical for safety.
Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.

Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation Tape
2) PVC tubing
3) Spacers
4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector

The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure

1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	USA or CANADA	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

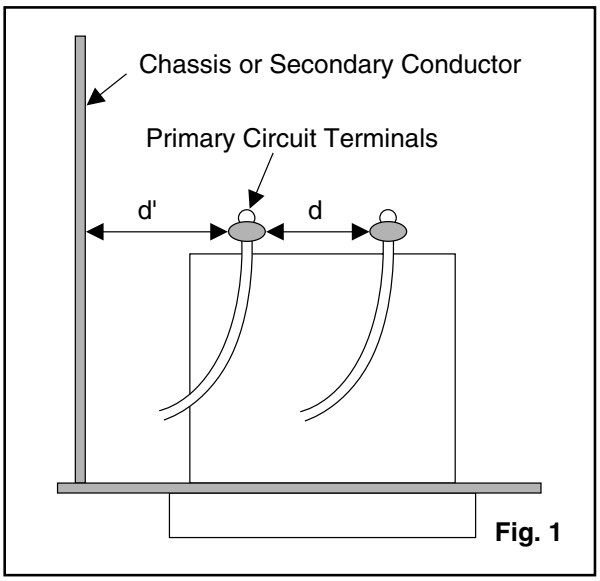


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

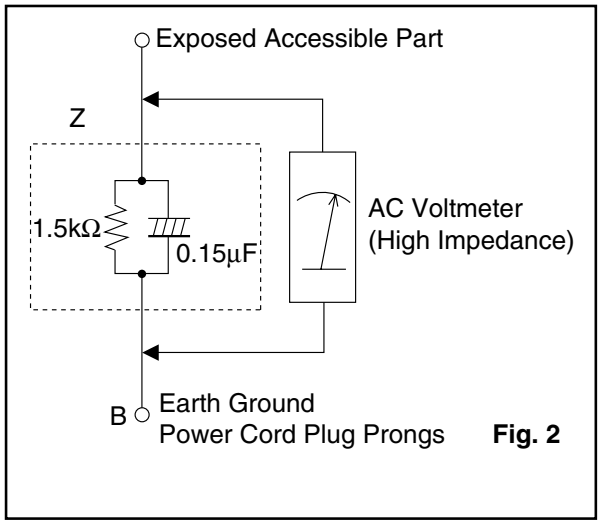


Fig. 2

Table 2 : Leakage current ratings for selected areas

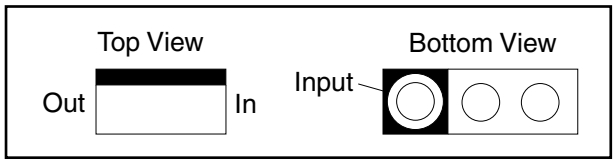
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA	0.15µF CAP. & 1.5kΩ RES. connected in parallel	i≤0.5mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

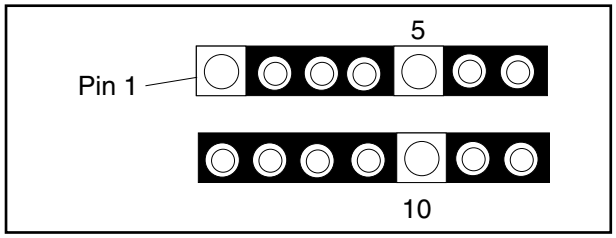
STANDARD NOTES FOR SERVICING

Circuit Board Indications

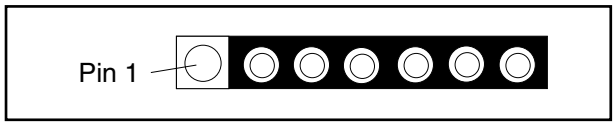
a. The output pin of the 3 pin Regulator ICs is indicated as shown.



b. For other ICs, pin 1 and every fifth pin are indicated as shown.

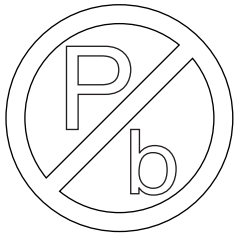


c. The 1st pin of every male connector is indicated as shown.



Pb (Lead) Free Solder

Pb free mark will be found on PCBs which use Pb free solder. (Refer to figure.) For PCBs with Pb free mark, be sure to use Pb free solder. For PCBs without Pb free mark, use standard solder.



Pb free mark

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

(1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

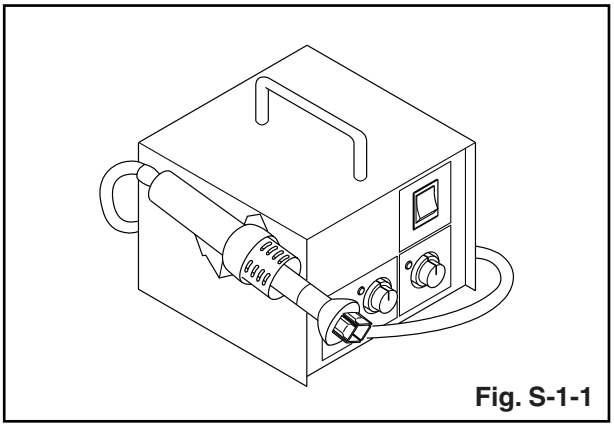


Fig. S-1-1

(2) Remove the flat pack-IC with tweezers while applying the hot air.

(3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Caution:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

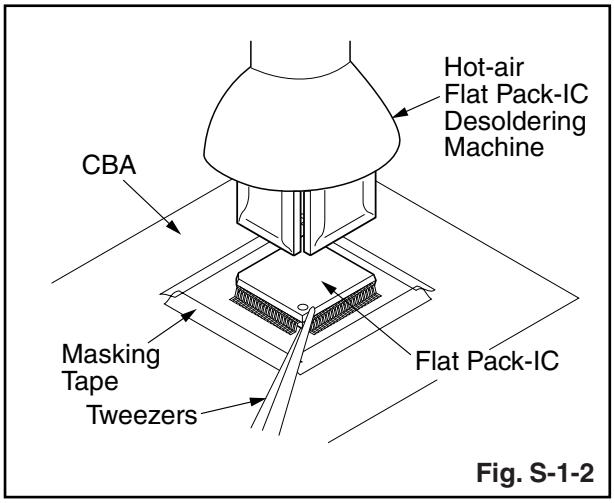


Fig. S-1-2

With Soldering Iron:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

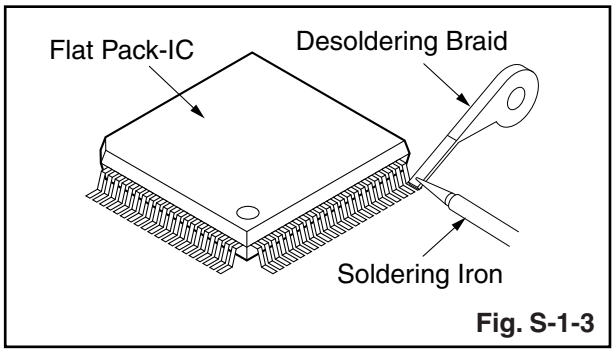


Fig. S-1-3

(2) Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine.(Fig. S-1-4)

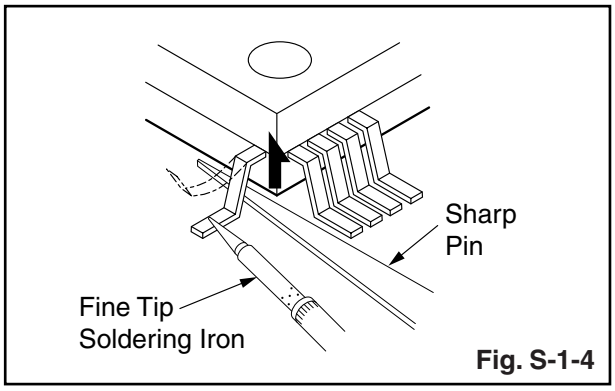


Fig. S-1-4

(3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

(2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

(3) While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.

(4) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(5) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note:

When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

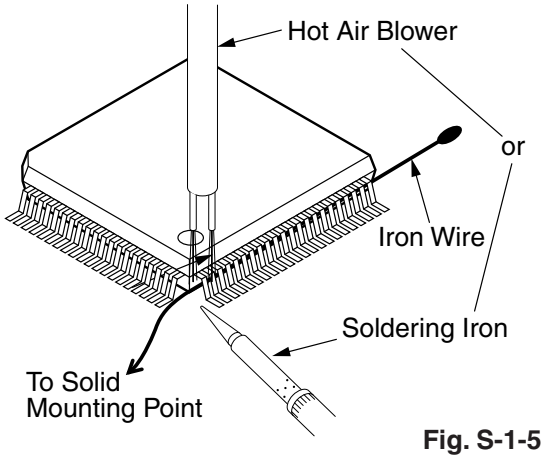


Fig. S-1-5

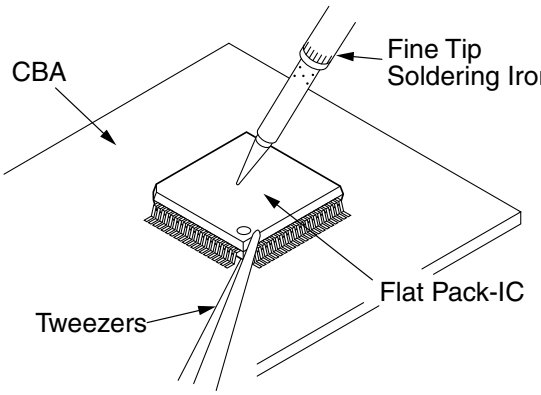


Fig. S-1-6

2. Installation

(1) Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.

(2) The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then pre- solder the four corners of the flat pack-IC. (See Fig. S-1-8.)

(3) Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

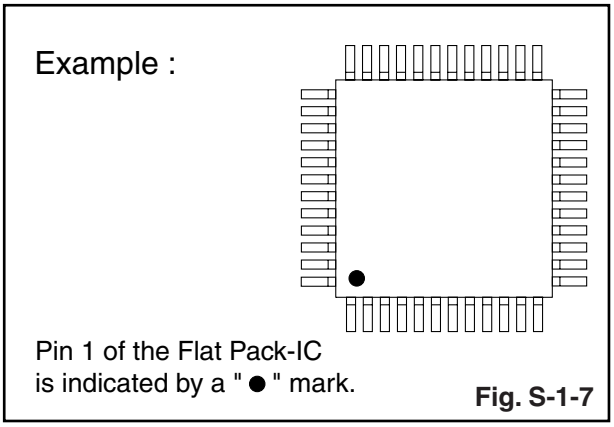


Fig. S-1-7

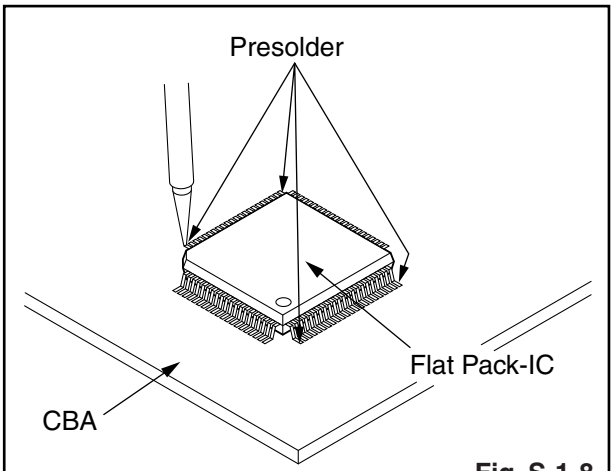


Fig. S-1-8

Instructions for Handling Semiconductors

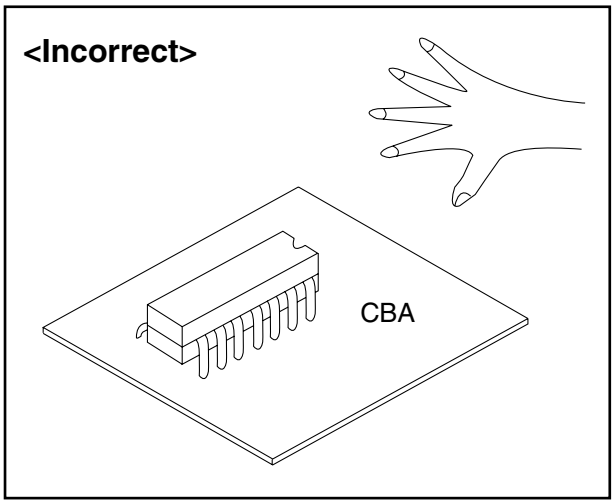
Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

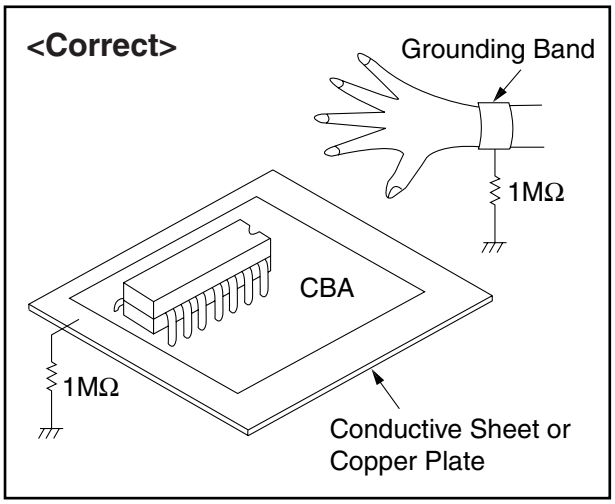
1. Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the workbench or other surface, where the semiconductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors with your clothing.

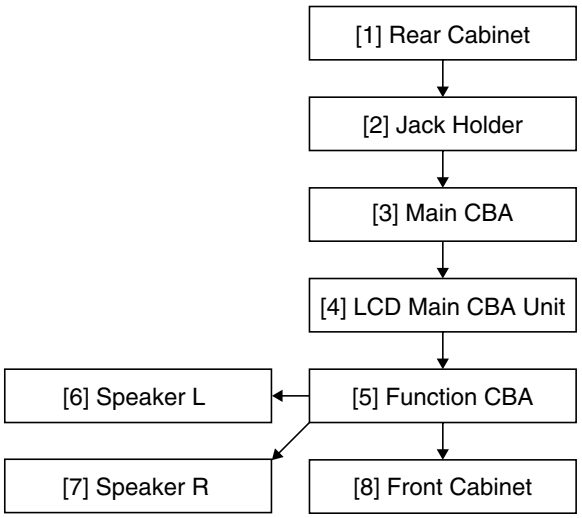




CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	**REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER**	Note
[1]	Rear Cabinet	D1 D3	6(S-1), (S-2), *CN801, *CN802	---
[2]	Jack Holder	D2	(S-3), (S-4), (S-5)	---
[3]	Main CBA	D2 D3	5(S-6), 3(S-7), *CN101A, *CN102A, *CN103A, *CN104A, *CN401, *CN402	---
[4]	LCD Main CBA Unit	D2 D3	7(S-8)	---
[5]	Function CBA	D2 D3	4(S-9)	---
[6]	Speaker L	D2 D3	2(S-10)	---
[7]	Speaker R	D2 D3	2(S-11)	---
[8]	Front Cabinet	D2	----------	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

(1): Order of steps in Procedure. When reassembling, follow the steps in reverse order.These numbers are also used as the Identification (location) No. of parts in Figures.

(2): Parts to be removed or installed.

(3): Fig. No. showing Procedure of Part Location.

(4): Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

2(S-2) = two screws (S-2)

(5): Refer to the following Reference Notes in the Table.

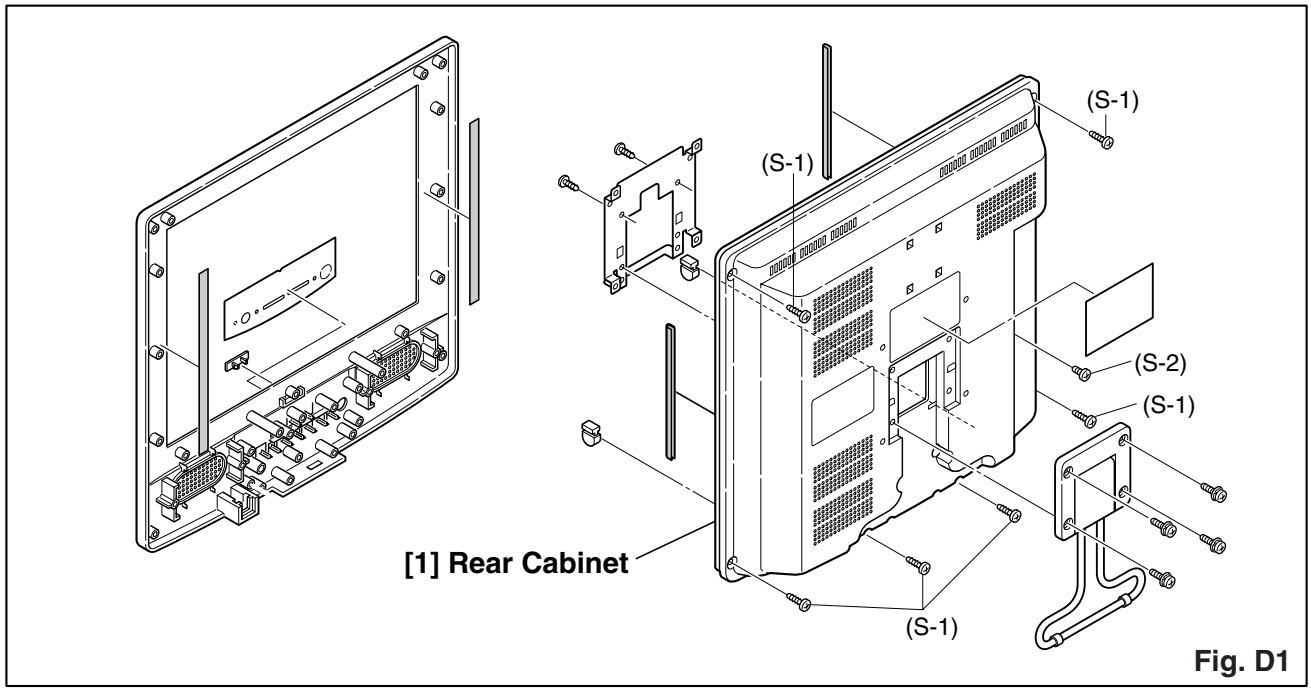

(S-1)
(S-1)
(S-2)
(S-1)
[1] Rear Cabinet
(S-1)

Fig. D1

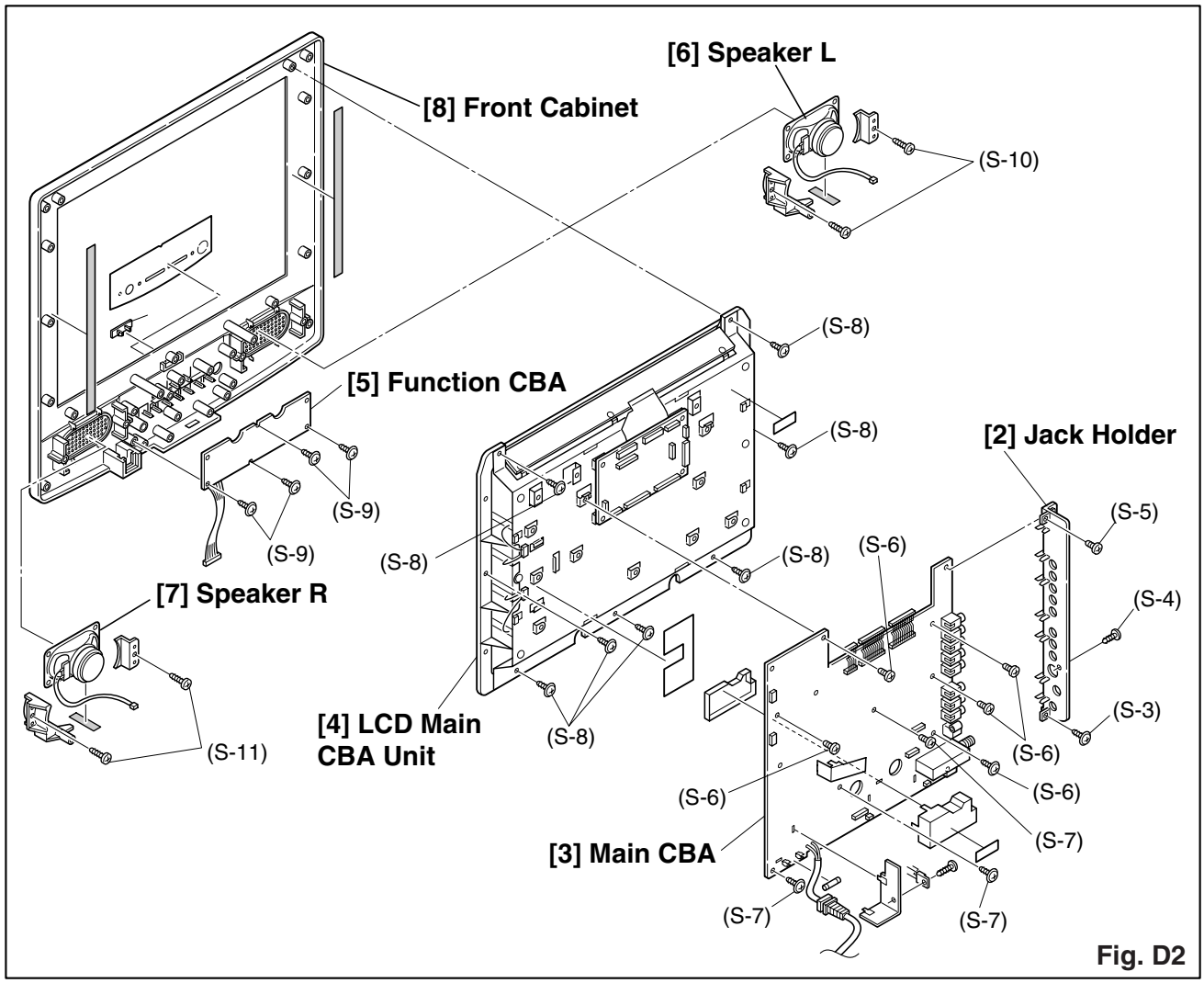

[6] Speaker L
[8] Front Cabinet
(S-10)
(S-8)
[5] Function CBA
(S-8)
[2] Jack Holder
(S-9)
(S-9)
(S-8)
(S-8)
(S-6)
(S-5)
[7] Speaker R
(S-4)
(S-11)
[4] LCD Main
CBA Unit
(S-8)
(S-3)
(S-6)
(S-6)
(S-6)
[3] Main CBA
(S-7)
(S-7)
(S-7)

Fig. D2

TV Cable Wiring Diagram

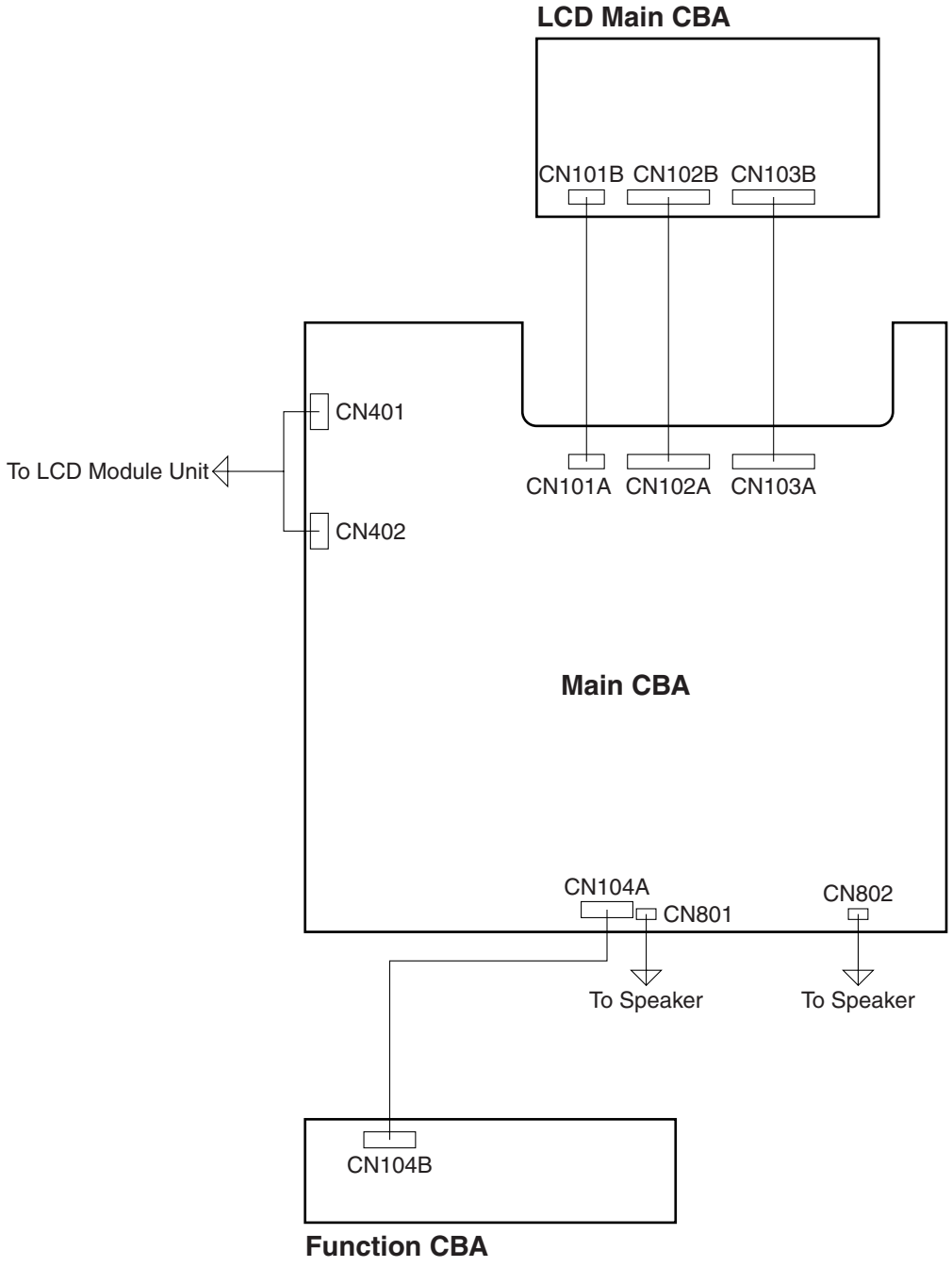


Fig. D3

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:
"CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. Remote control unit: Part No. N0105UD or N0127UD
3. Color Analyzer

How to make Service remote control unit:

1. Prepare normal remote control unit. (Part No. N0105UD or N0127UD) Remove 3 Screws from the back lid. (Fig. 1-1)
2. Add J1 (Jumper Wire) to the remote control CBA. (Fig. 1-2)

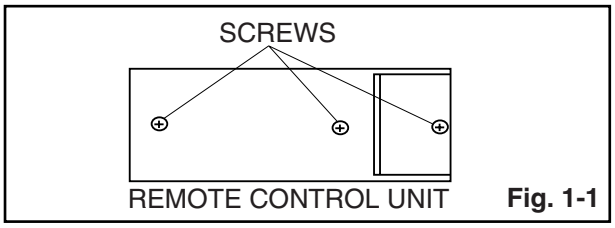


Fig. 1-1

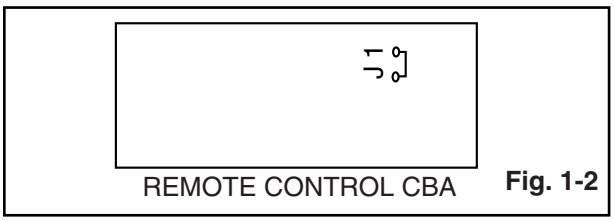


Fig. 1-2

How to set up the service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. Press "SLEEP" button on the service remote control unit. Version of micro computer will be displayed on the LCD or display. (Ex: 0001-0.21 or 0004GP-0.47)

1. Initial Setting

General

Enter the Service mode.

Set the each initial data as shown on tabel 1 below. When version of micro computer is 0004GP-0.47, set the each initial data as shown on table 1 and 2 below.

Table 1: Initial Data

ITEM	BUTTON (on the service remote control)	DATA VALUE
BRT	MENU → 1	119
CNT		196
CLR-R		70
CLR-B		70
TNT		68
V-TNT		64
SHR		35
S-BRT	MENU → 2	119
S-CNT		191
S-CLR-R		70
S-CLR-B		70
S-TNT		64
S-SHR		35
C-BRT	MENU → 3	119
C-CNT		191
C-CLR-R		60
C-CLR-B		64
C-TNT		64
C-SHR		35
D2-BRT	MENU → 5	119
D2-CNT		191
D2-CLR-R		60
D2-CLR-B		64
D2-TNT		64
D2-SHR		35
D3-BRT	MENU → 6	119
D3-CNT		196
D3-CLR-R		64
D3-CLR-B		64
D3-TNT		64
D3-SHR		35

ITEM	BUTTON (on the service remote control)	DATA VALUE
SAIDO	5	128
C-SAIDO		228
H-P	8	50
C-H-P		50
V-P	9	40
C-V-P		40
COR(C/D1)	VOL ▼ → 1	512
COG(C/D1)	VOL ▼ → 2	512
COB(C/D1)	VOL ▼ → 3	512
DR(C/D1)	VOL ▼ → 4	128
DG(C/D1)	VOL ▼ → 5	128
DB(C/D1)	VOL ▼ → 6	128
COR(C/D2)	VOL ▼ → 1	512
COG(C/D2)	VOL ▼ → 2	512
COB(C/D2)	VOL ▼ → 3	512
DR(C/D2)	VOL ▼ → 4	128
DG(C/D2)	VOL ▼ → 5	128
DB(C/D2)	VOL ▼ → 6	128
7F	VOL ▼	FF
LANGUAGE		SPA/FRA
STEREO TYPE		MTS
ACCESS CODE		OFF
BACK LIGHT		ON
HD		ON
2DVP		ES3
HRD		OFF
NCM		ON
ASPECT		OFF

Table 2: Initial Data (only 0004GP-0.47)

ITEM	BUTTON (on the service remote control)	DATA VALUE
D2-SAIDO	5	228
D3-SAIDO		228
NORMAL	0	74
DARK		150

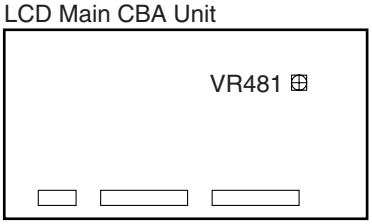
2. Software Reset

To reset software, press “5” button on the remote control unit for at least 5 seconds after pressing “CH RETURN” button on the remote control unit.

3. Flicker Adjustment

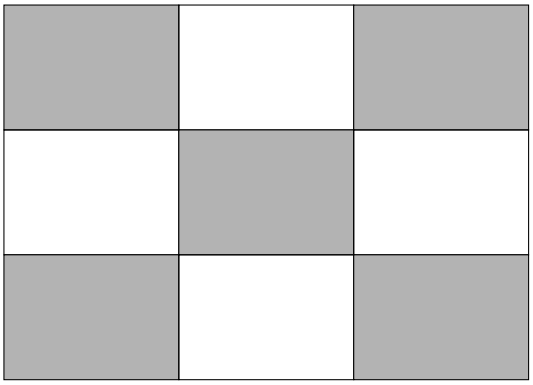
When version of micro computer is 0004GP-0.47, the following adjustment is necessary.

Adjustment Point: VR481 (LCD Main CBA Unit)

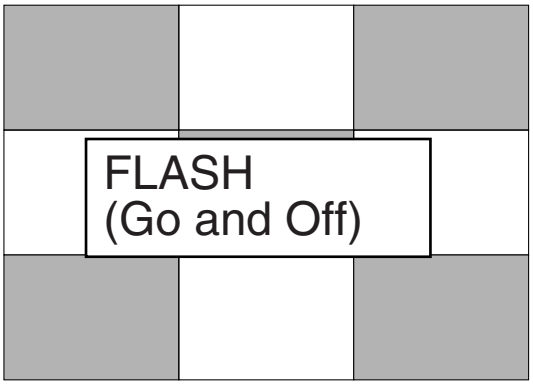


Note: Use service remote control unit

1. Enter the Service mode. (See page 5-1)
2. Press “2” button on the remote control unit. The following screen appears.



3. If Flicker Adjustment is not fit, the screen become the following.



4. Adjust VR481 so that flash stops.

The following adjustment normally are not attempted in the field. Only when replacing the LCD Panel then adjust as a preparation.

4. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	CH ▲ / ▼ buttons	VIDEO1 VIDEO2	White Purity (APL 80%)
M. EQ.		Spec.	
Pattern Generator, Color analyzer		x (0.256 to 0.316), y (0.264 to 0.324)	
Figure			

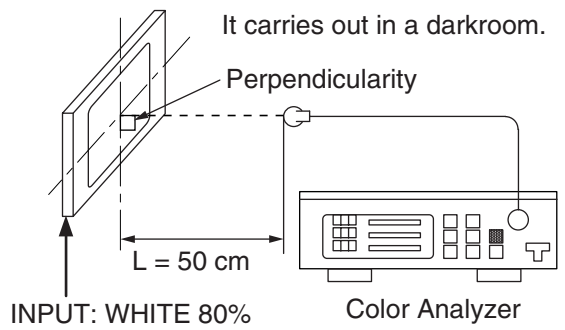


Fig. 2

Note: Use service remote control unit

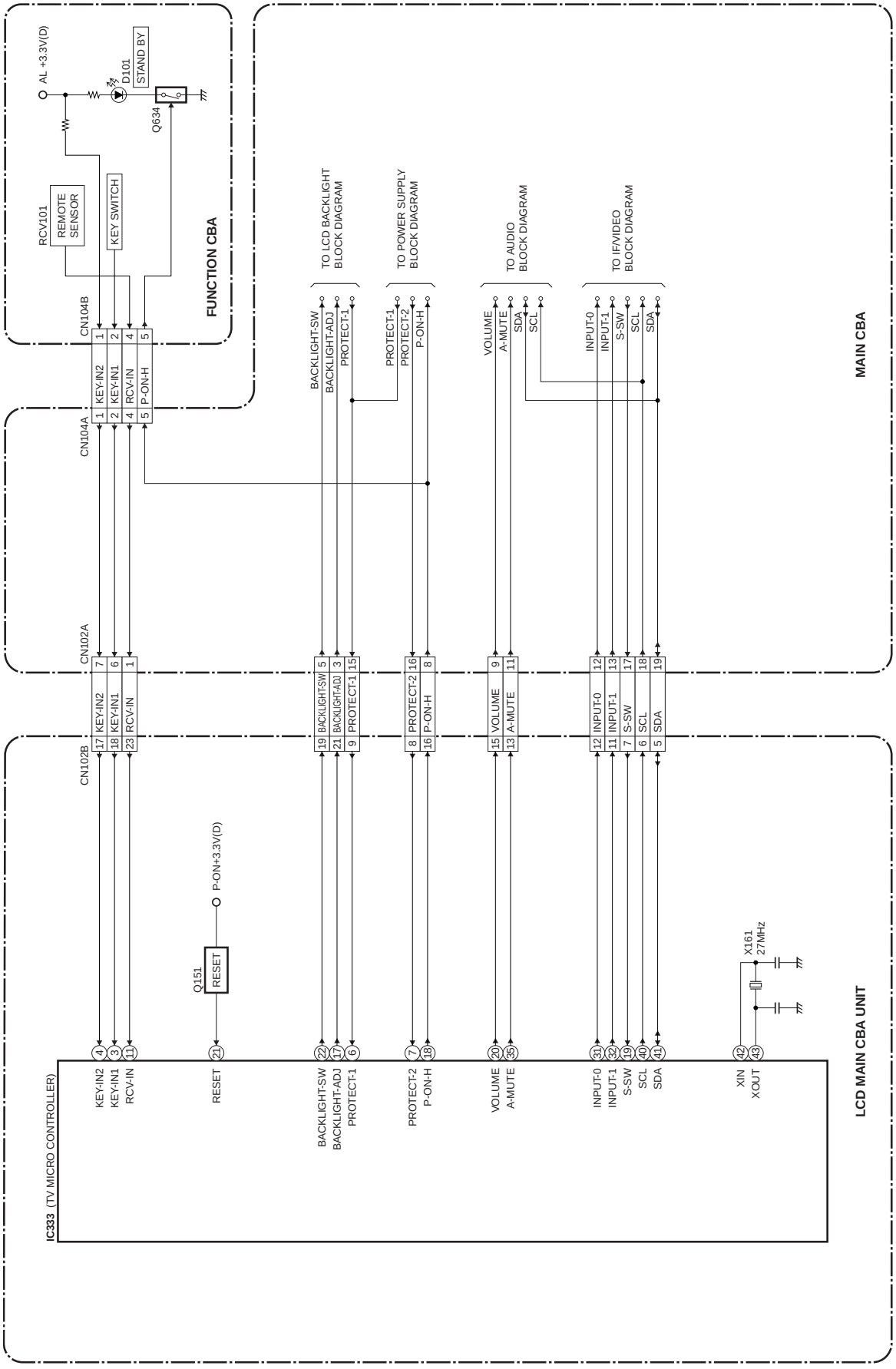
1. Operate the unit for more than 20 minutes.
2. Input the White Purity (APL 80%).
3. Set the color analyzer to the CHROMA mode and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
   Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
4. Enter the Service mode. Press "VOL ▼" button on the service remote control unit and select "C/D" mode.

5-1. When "x" value and "y" value are not within specification, adjust "DB(C/D1)" or "DR(C/D1)". Refer to "1. Initial Setting."
Note: "DB(C/D1)" or "DR(C/D1)" must be adjusted within ±10.

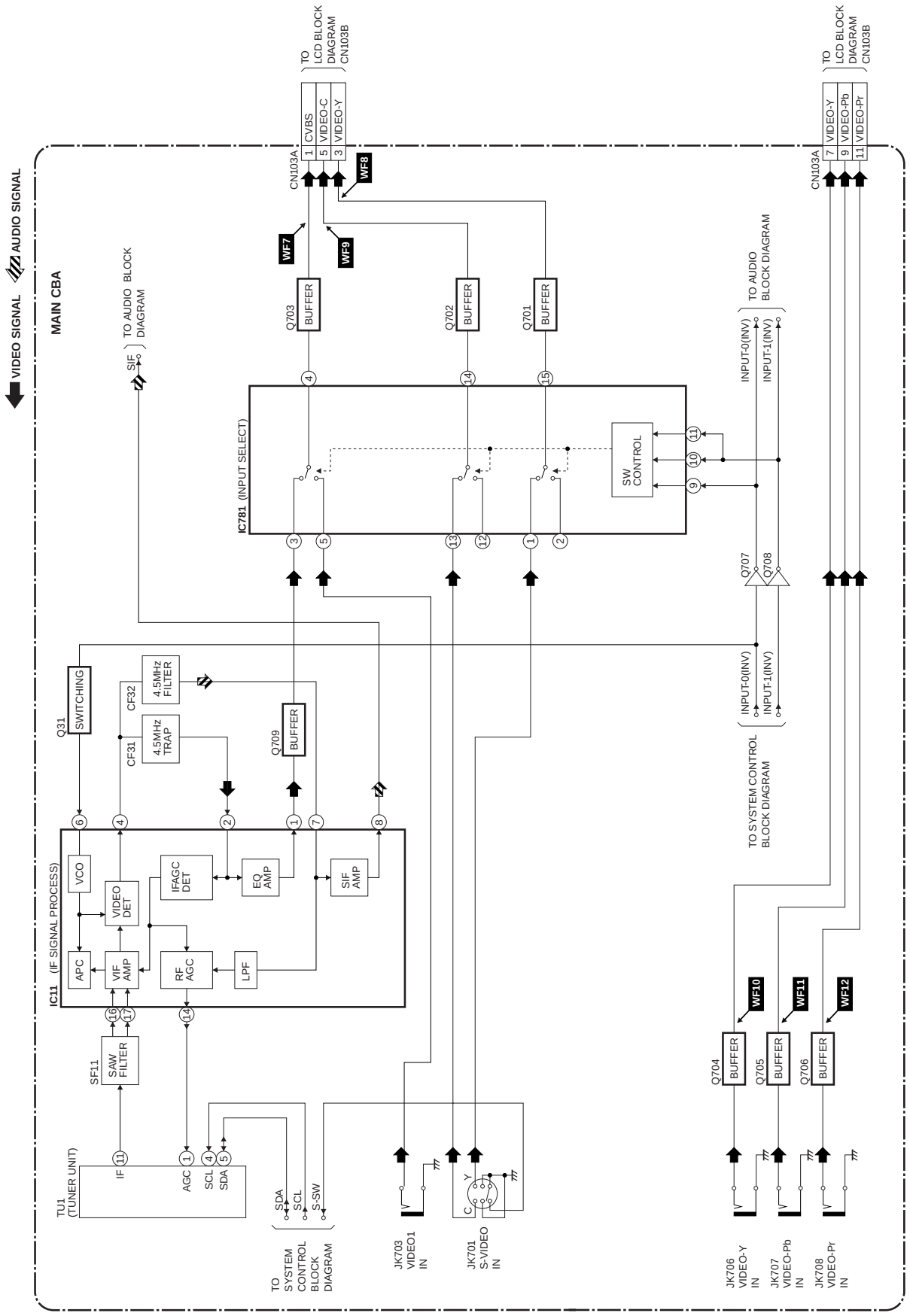
5-2. When "x" value and "y" value are not within specification, adjust "DB(C/D2)" or "DR(C/D2)". Refer to "1. Initial Setting."
Note: "DB(C/D2)" or "DR(C/D2)" must be adjusted within ±10.

BLOCK DIAGRAMS

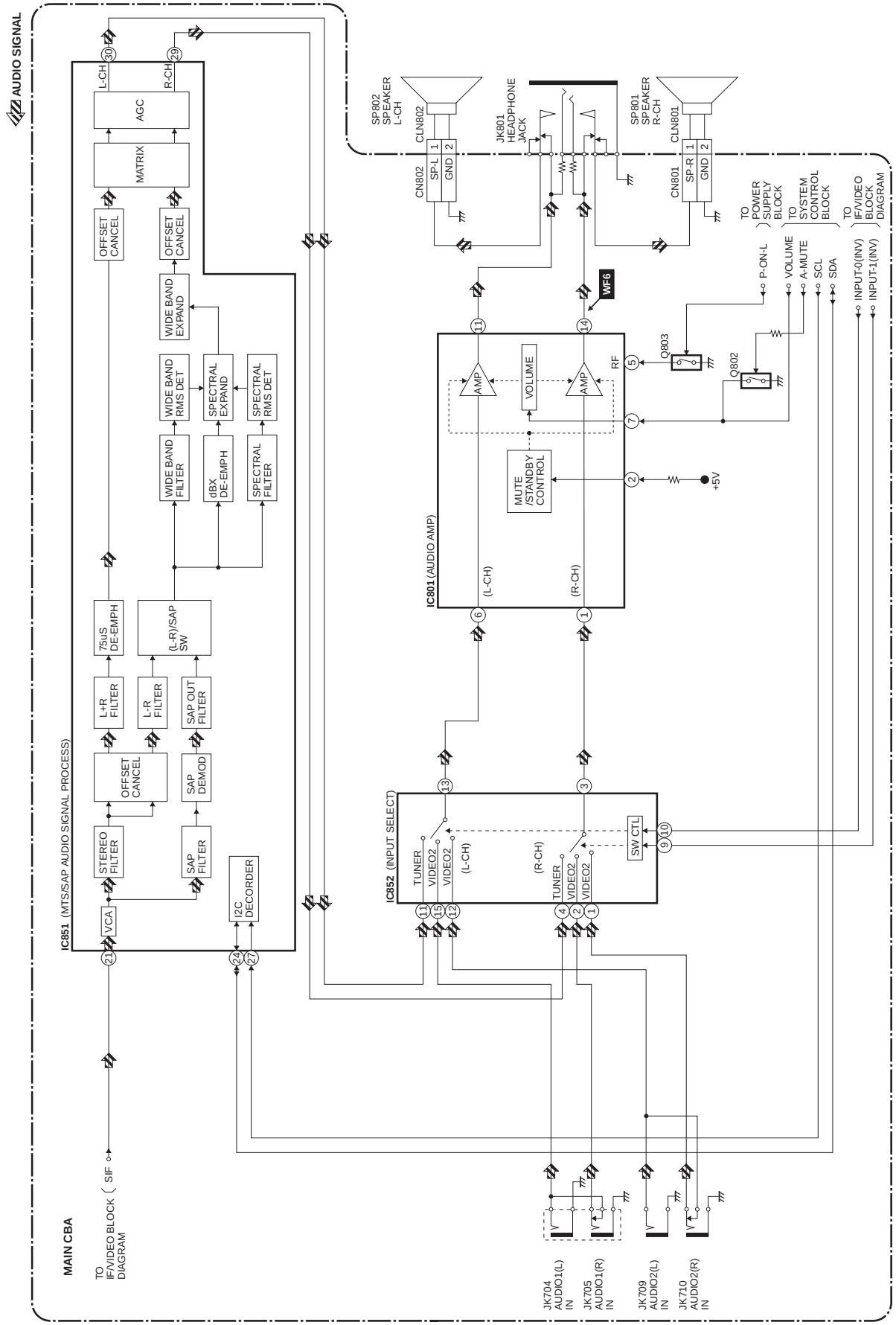
System Control Block Diagram



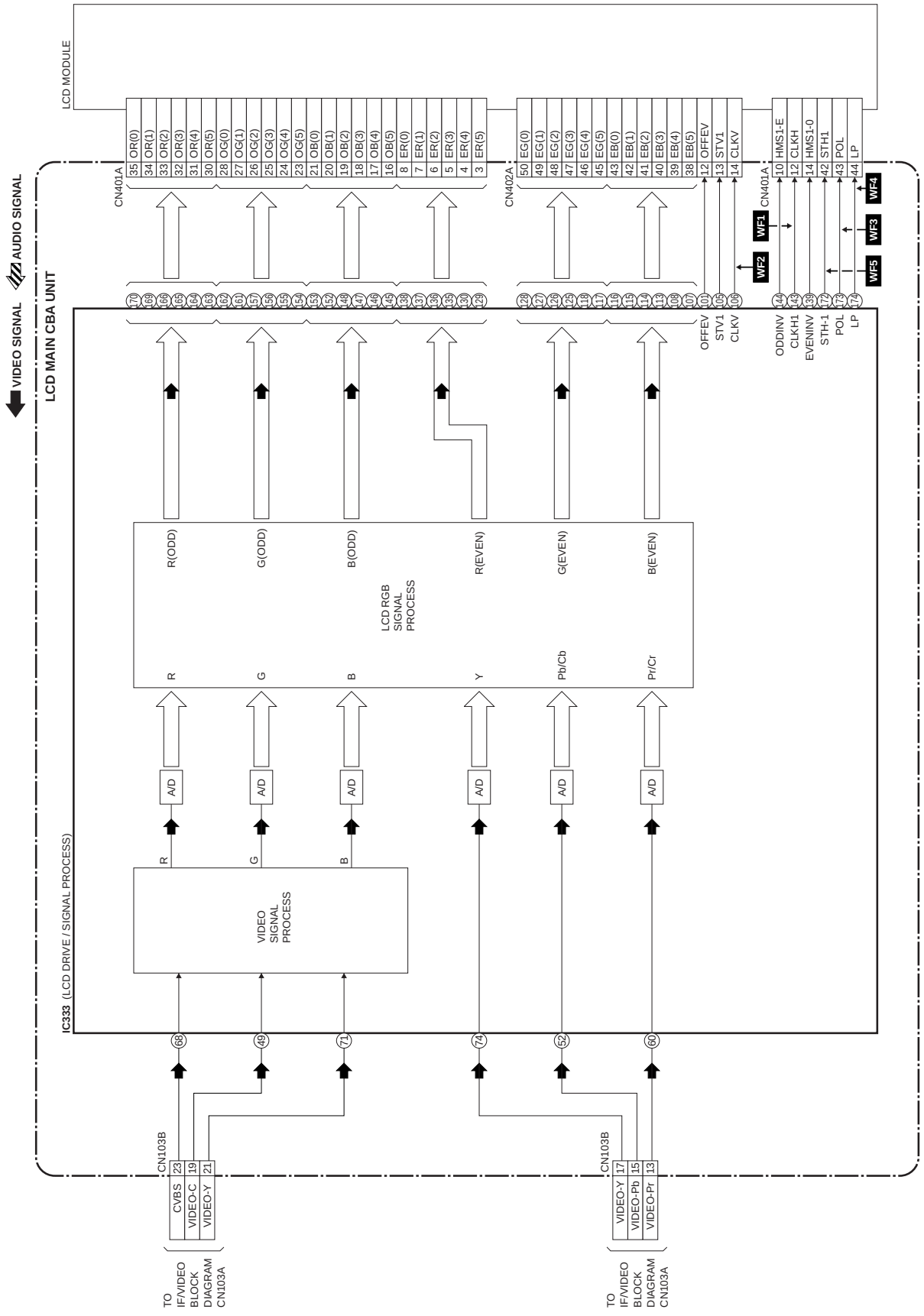
IF/Video Block Diagram



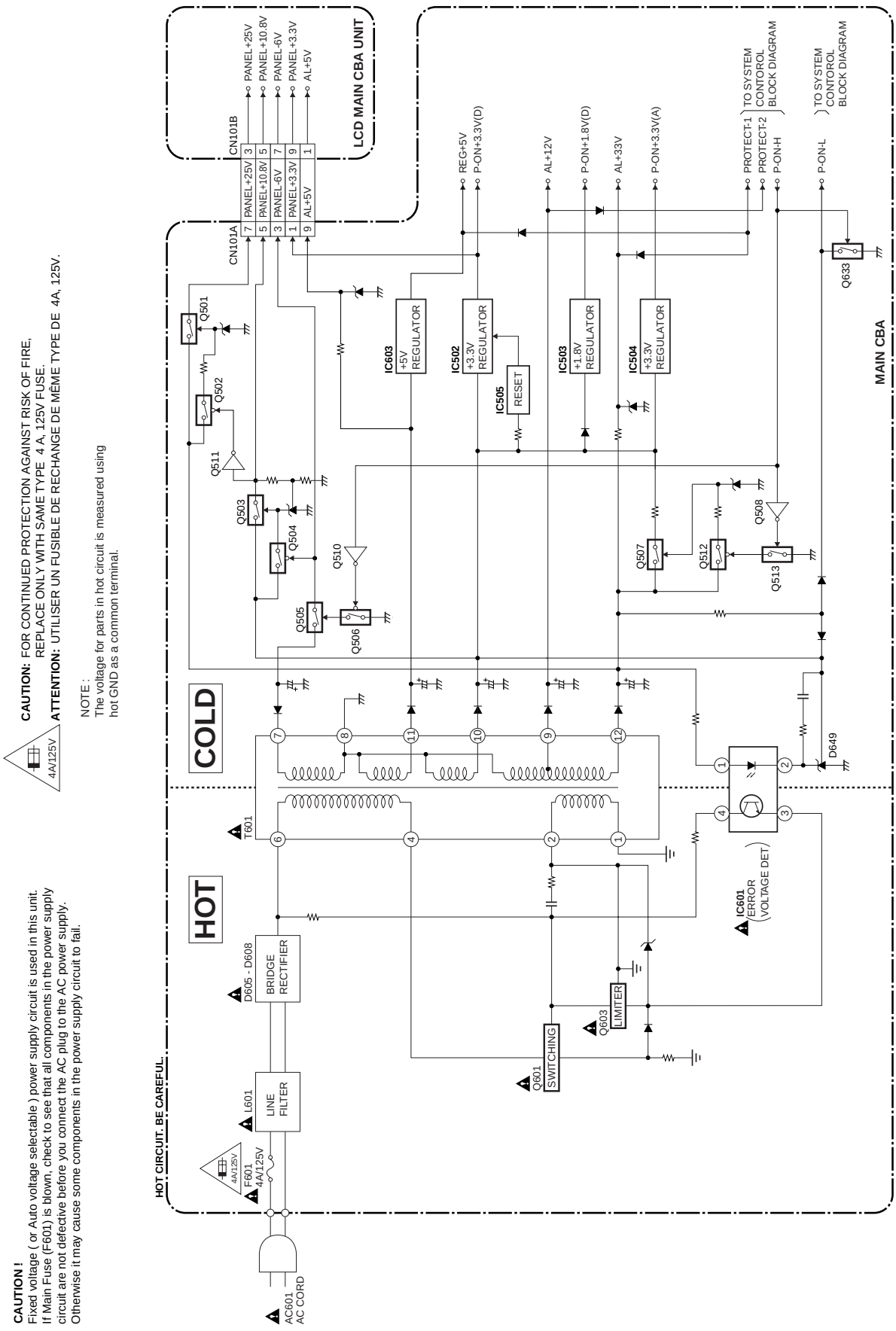
Audio Block Diagram



LCD Block Diagram



Power Supply Block Diagram

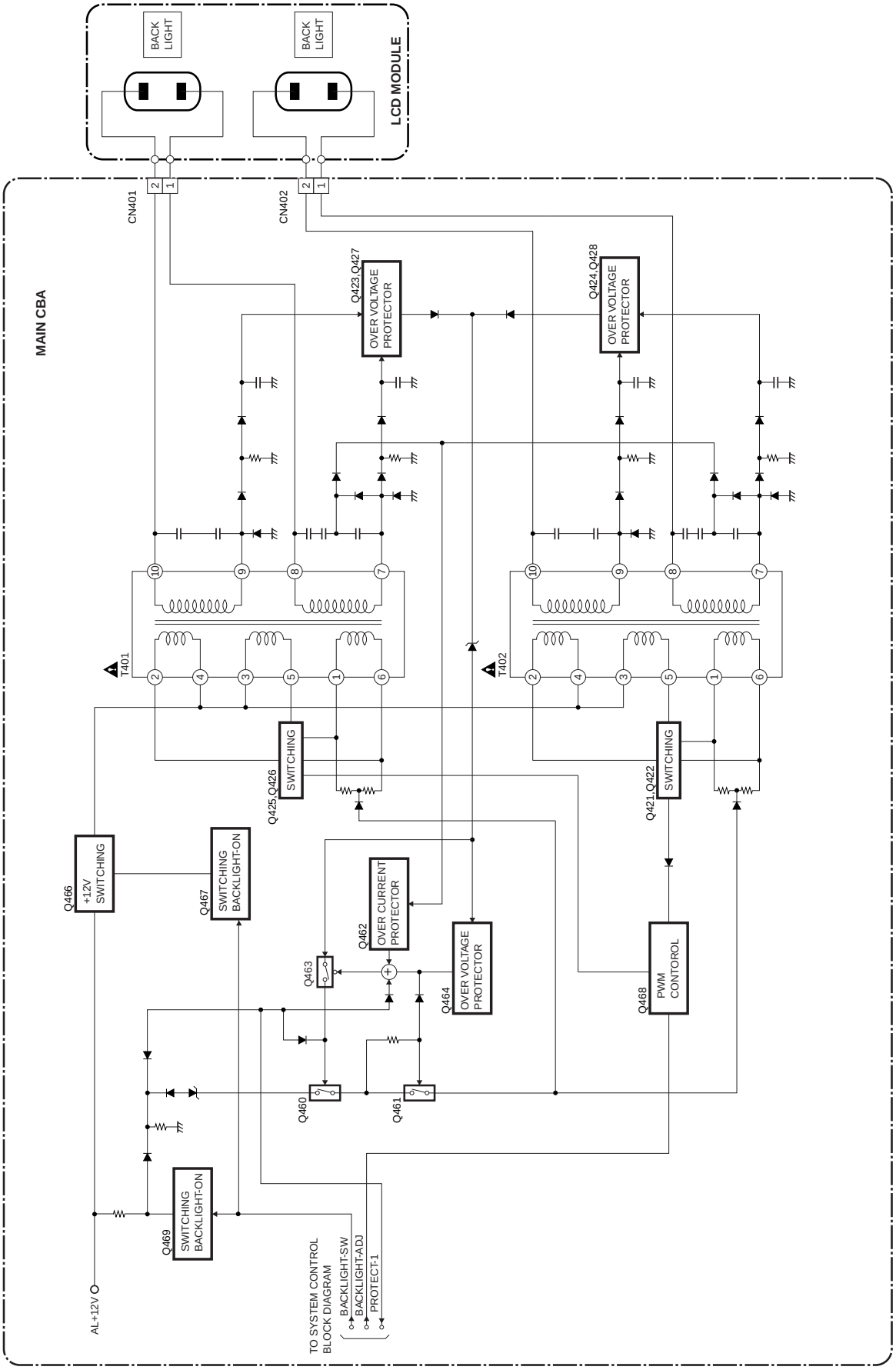


CAUTION!
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4 A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

LCD Backlight Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Note:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}$μF).
5. All voltages are DC voltages unless otherwise specified.

Note of Capacitors:

ML --- Mylar Cap. PP --- Metallized Film Cap. SC --- Semiconductor Cap. L --- Low Leakage type

Temperature Characteristics of Capacitors are noted with the following:

B --- ±10% CH --- 0±60ppm/°C CSL --- +350~-1000ppm/°C

Tolerance of Capacitors are noted with the following:

Z --- +80~-20%

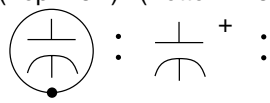
Note of Resistors:

CEM --- Cement Res. MTL --- Metal Res. F --- Fuse Res.

Capacitors and transistors are represented by the following symbols.

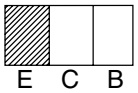
CBA Symbols

(Top View) (Bottom View)



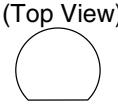
Electrolytic Capacitor

(Bottom View)



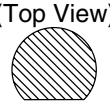
Transistor or Digital Transistor

(Top View)



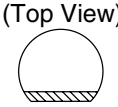
NPN Transistor

(Top View)



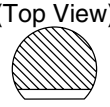
PNP Transistor

(Top View)



NPN Digital Transistor

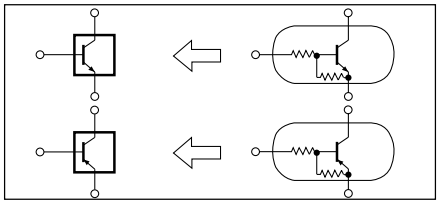
(Top View)



PNP Digital Transistor

Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. **CAUTION:** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE_A,_V FUSE.
   ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE_A,_V.

2. **CAUTION:**

   Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
   If Main Fuse (F601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**

   (1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.

   (2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

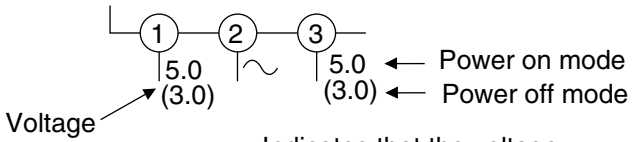
4. **Wire Connectors**

   (1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).

   (2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. **Note:** Mark "●" is a leadless (chip) component.

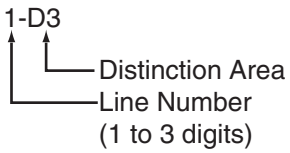
6. **Voltage indications on the schematics are as shown below:**
   Plug the TV power cord into a standard AC outlet.:



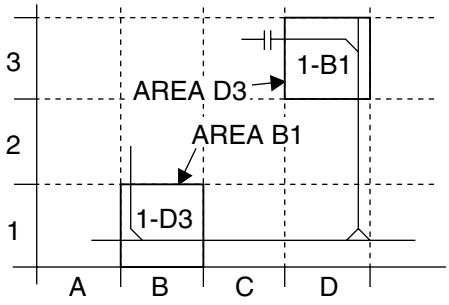
Indicates that the voltage is not consistent here.

Unit: Volts

7. **How to read converged lines**



Examples:
1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



8. **Test Point Information**

   : Indicates a test point with a jumper wire across a hole in the PCB.

   : Used to indicate a test point with a component lead on foil side.

   : Used to indicate a test point with no test pin.

   : Used to indicate a test point with a test pin.

Main 1/4 Schematic Diagram

*** Combination of the parts inside a dotted line.**

TYPE_A

Ref.No	
C466	WIRE
C468	WIRE
C481	WIRE
C482	WIRE
C483	5P/3KV
C484	5P/3KV
C485	5P/3KV
C486	5P/3KV

TYPE_B

Ref.No	
C466	10P/3KV
C468	10P/3KV
C481	10P/3KV
C482	10P/3KV
C483	10P/3KV
C484	10P/3KV
C485	10P/3KV
C486	10P/3KV

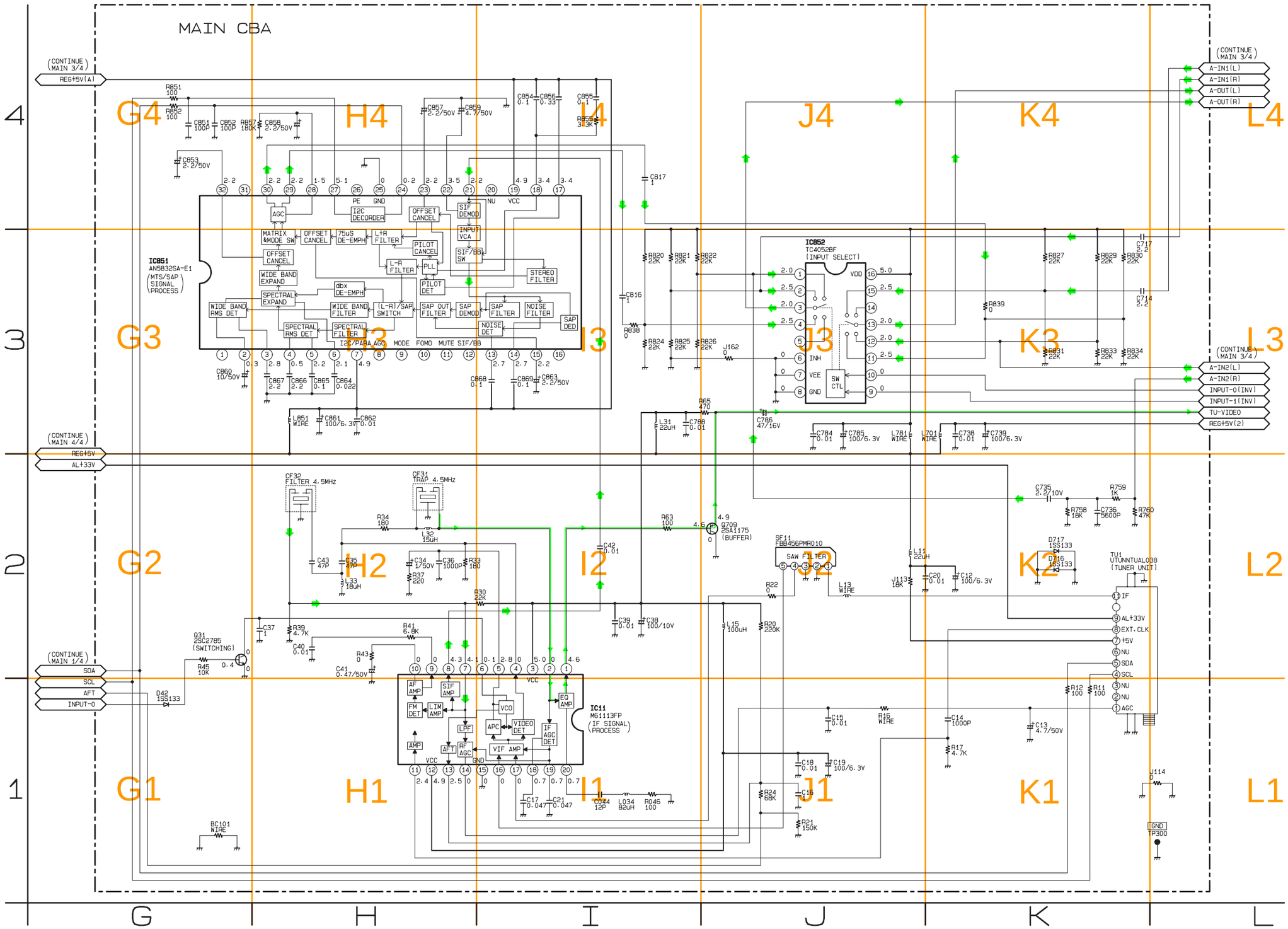
MAIN 1/4

Ref No.	Position
IC	
IC502	D-3
IC503	D-2
IC504	E-2
IC505	D-3
TRANSISTORS	
Q421	D-3
Q422	D-3
Q423	D-4
Q424	E-3
Q425	E-4
Q426	D-4
Q427	E-4
Q428	E-4
Q460	B-3
Q461	B-4
Q462	B-2
Q463	B-2
Q464	B-2
Q466	B-1
Q467	B-1
Q468	B-3
Q469	B-1
Q501	C-2
Q502	C-2
Q503	C-2
Q504	C-2
Q505	C-1
Q506	C-1
Q507	C-1
Q508	C-1
Q509	C-1
Q510	C-1
Q511	C-2
Q512	C-1
Q513	C-1
CONNECTORS	
CN101A	A-3
CN102A	A-2
CN104A	A-2
CN401	F-4
CN402	F-4

Main 2/4 Schematic Diagram

VIDEO SIGNAL

AUDIO SIGNAL



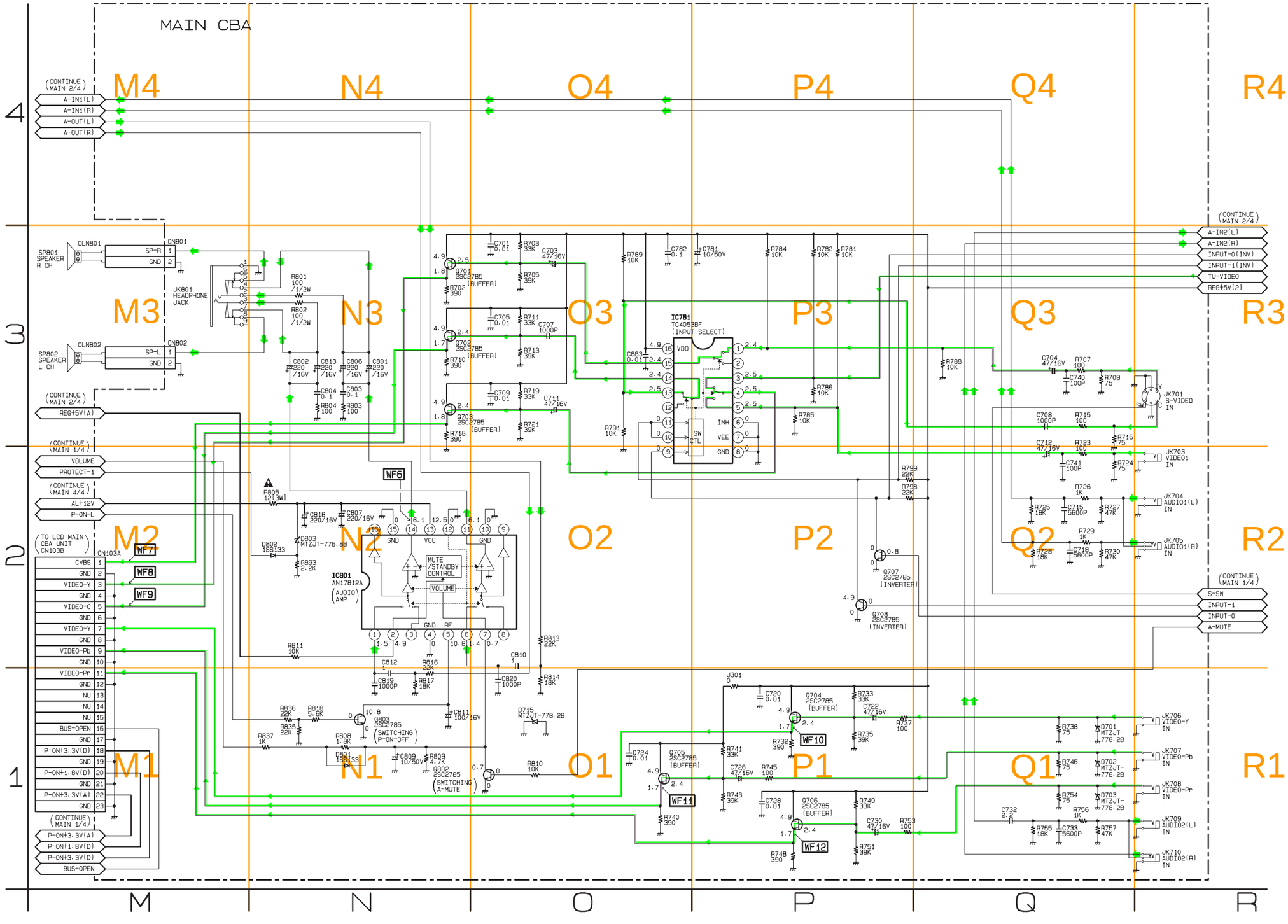
MAIN 2/4

Ref No.	Position
IC	
IC11	I-1
IC851	G-3
IC852	J-3
TRANSISTORS	
Q31	G-2
Q709	J-2
TEST POINTS	
TP300	L-1

Main 3/4 Schematic Diagram

VIDEO SIGNAL

AUDIO SIGNAL



MAIN 3/4

Ref No.	Position
IC	
IC781	O-3
IC801	N-2
TRANSISTORS	
Q701	N-3
Q702	N-3
Q703	N-3
Q704	P-1
Q705	O-1
Q706	P-1
Q707	P-2
Q708	P-2
Q802	O-1
Q803	N-1
CONNECTOR	
CN103A	M-2
CN801	M-3
CN802	M-3

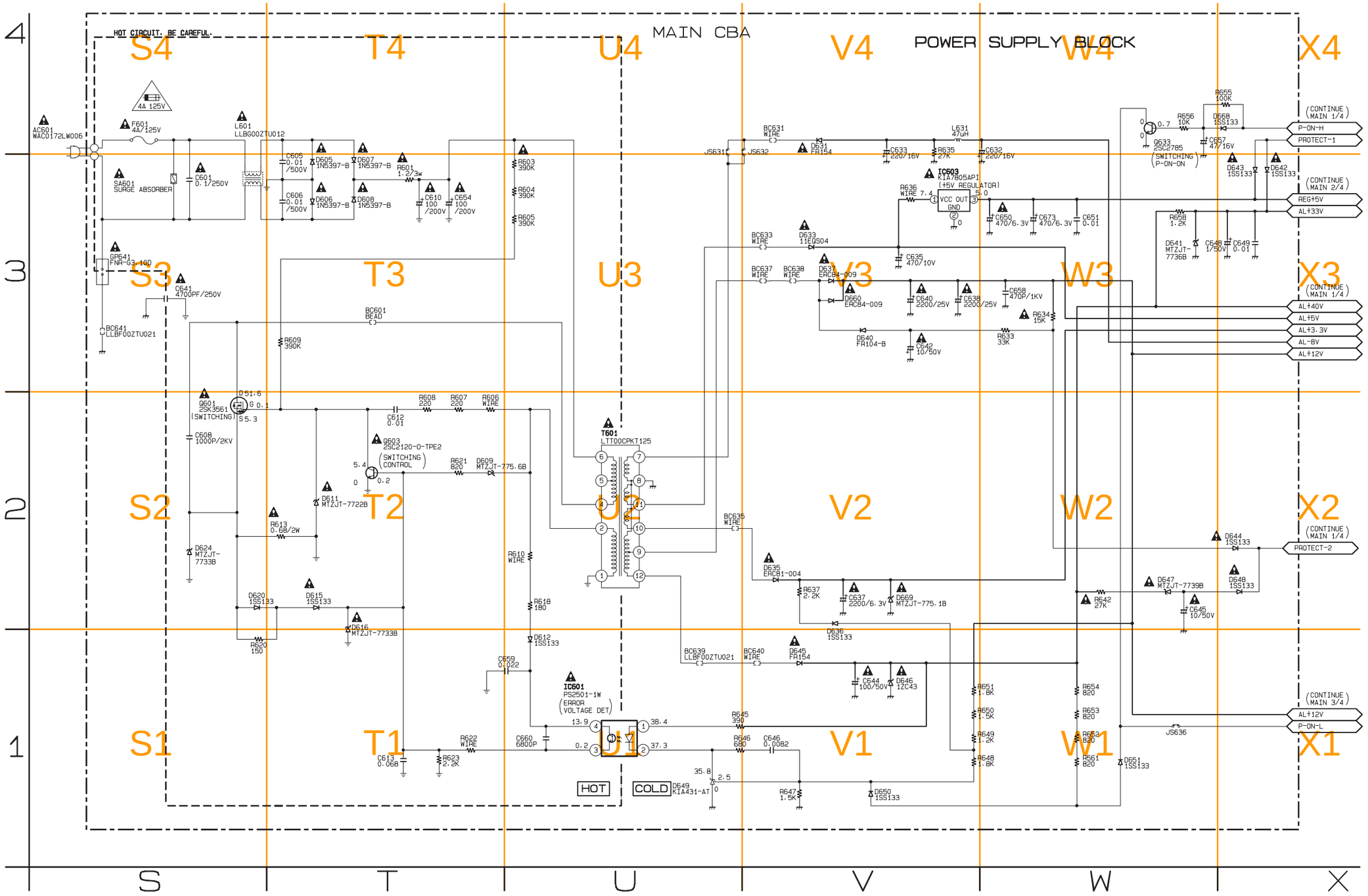
Main 4/4 Schematic Diagram

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

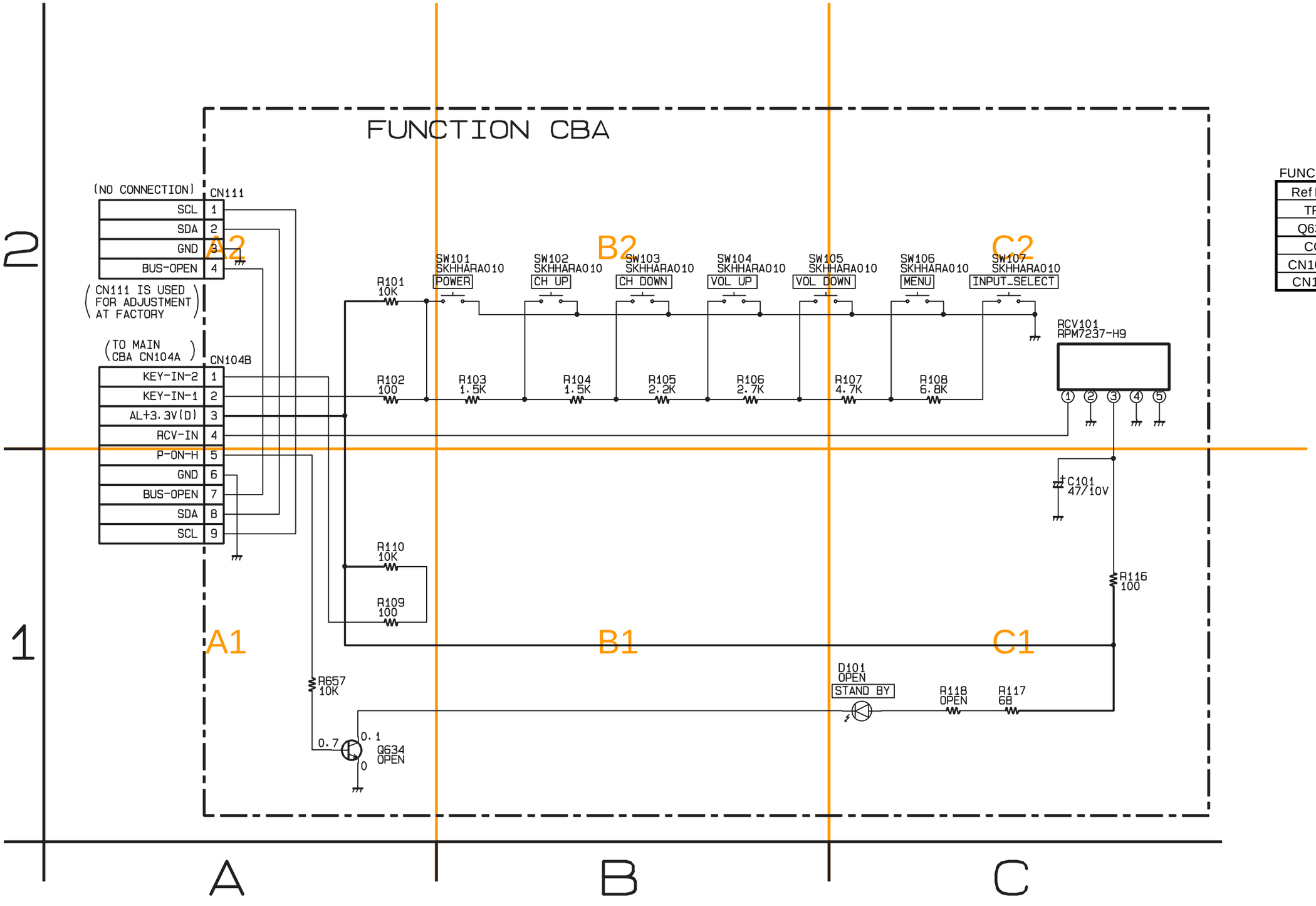
NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



MAIN 4/4

Ref No.	Position
IC	
IC601	U-1
IC603	V-3
TRANSISTORS	
Q601	S-2
Q603	T-2
Q633	W-4

Function Schematic Diagram



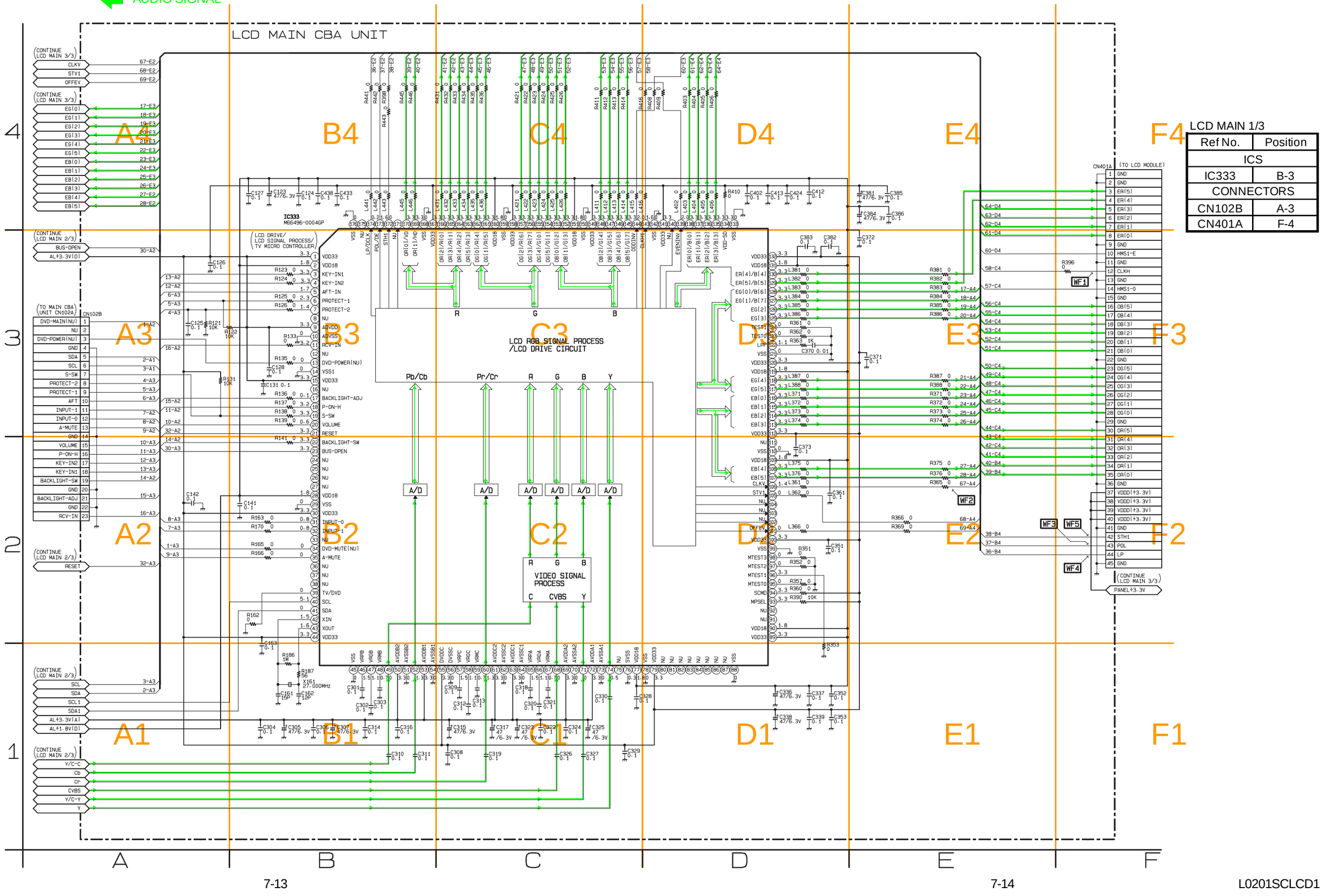
FUNCTION

Ref No.	Position
TRANSISTORS	
Q634	A-1
CONNECTORS	
CN104B	A-2
CN111	A-2

LCD Main 1/3 Schematic Diagram

VIDEO SIGNAL

AUDIO SIGNAL



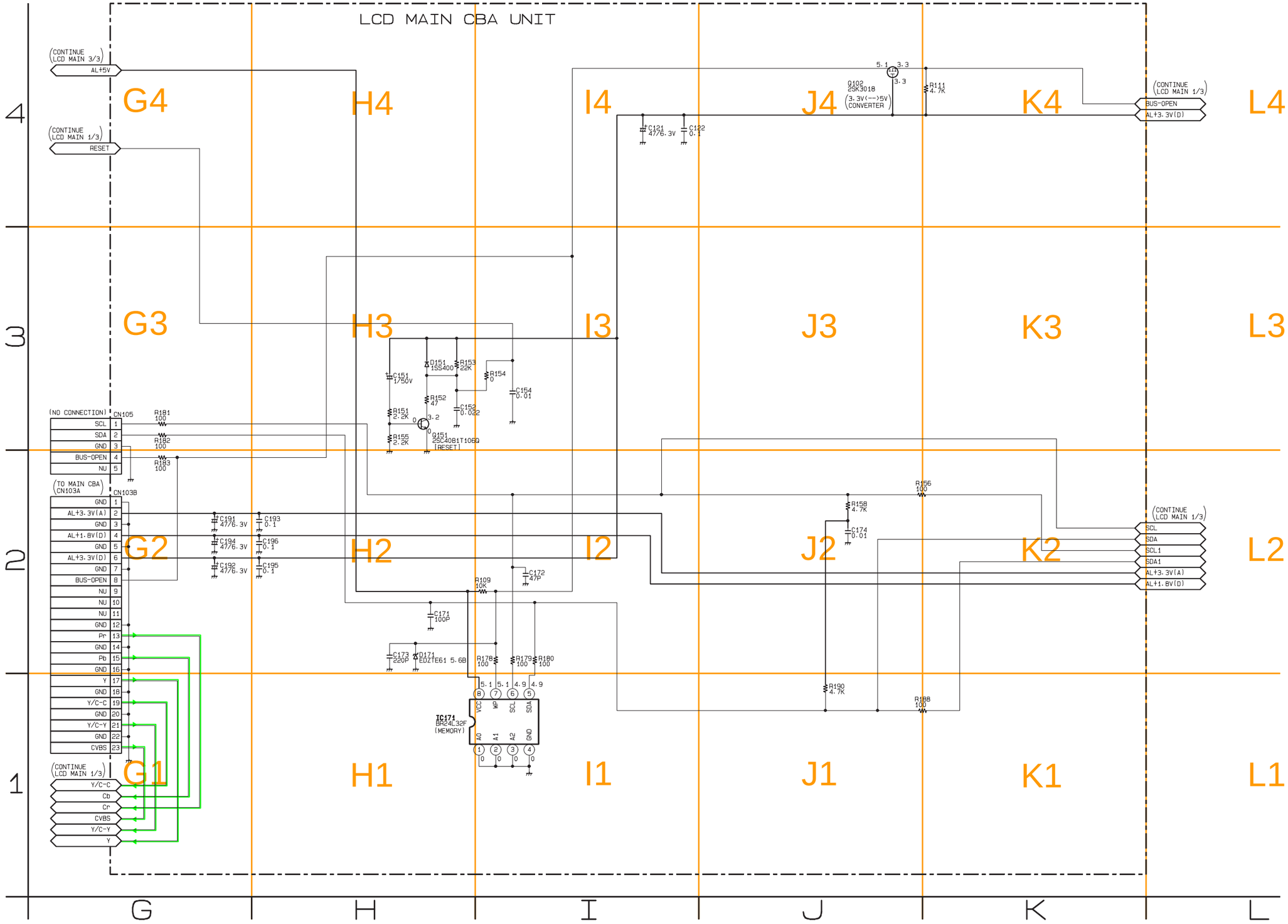
LCD MAIN 1/3

Ref No.	Position
ICS	
IC333	B-3
CONNECTORS	
CN102B	A-3
CN401A	F-4

LCD Main 2/3 Schematic Diagram

VIDEO SIGNAL

AUDIO SIGNAL



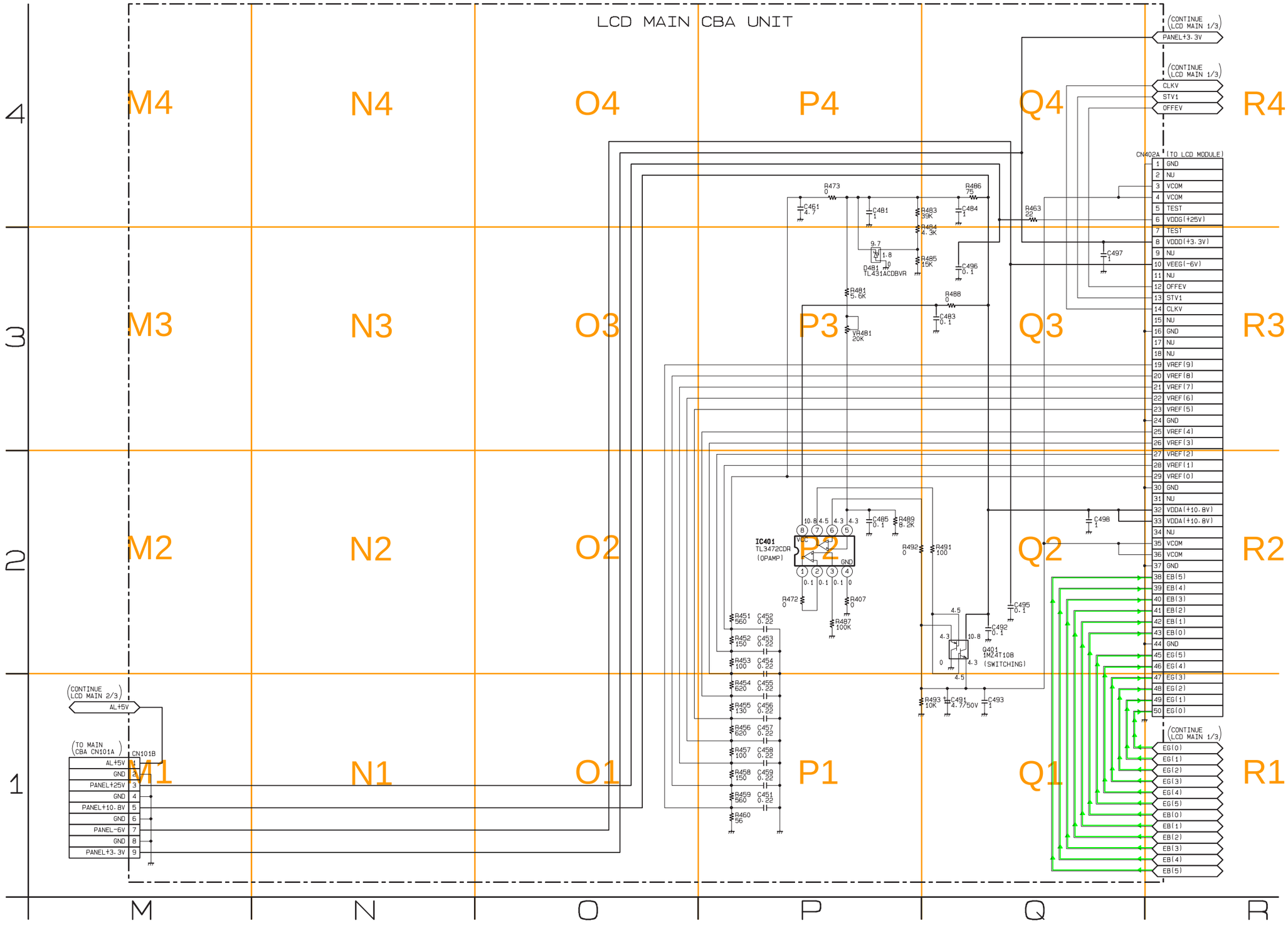
LCD MAIN 2/3

Ref No.	Position
ICS	
IC171	H-1
TRANSISTORS	
Q102	J-4
Q151	H-3
CONNECTORS	
CN103B	G-2
CN105	G-3

LCD Main 3/3 Schematic Diagram

VIDEO SIGNAL

AUDIO SIGNAL



LCD MAIN 3/3

Ref No.	Position
ICS	
IC401	P-2
TRANSISTORS	
Q401	Q-2
CONNECTOR	
CN101B	M-1
CN402A	R-4
VARIABLE RESISTOR	
VR481	P-3

Main CBA Top View

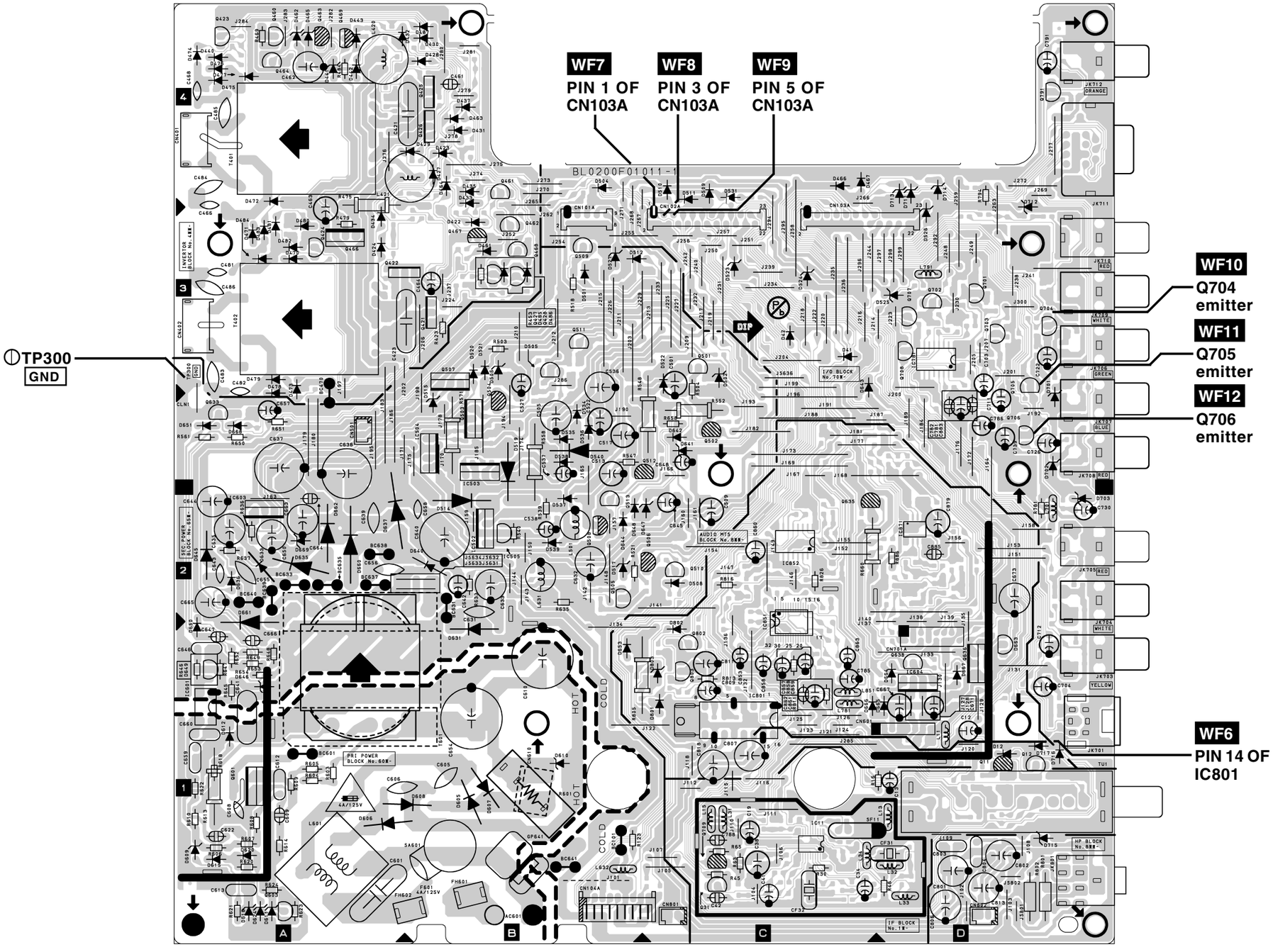
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



Main CBA Bottom View

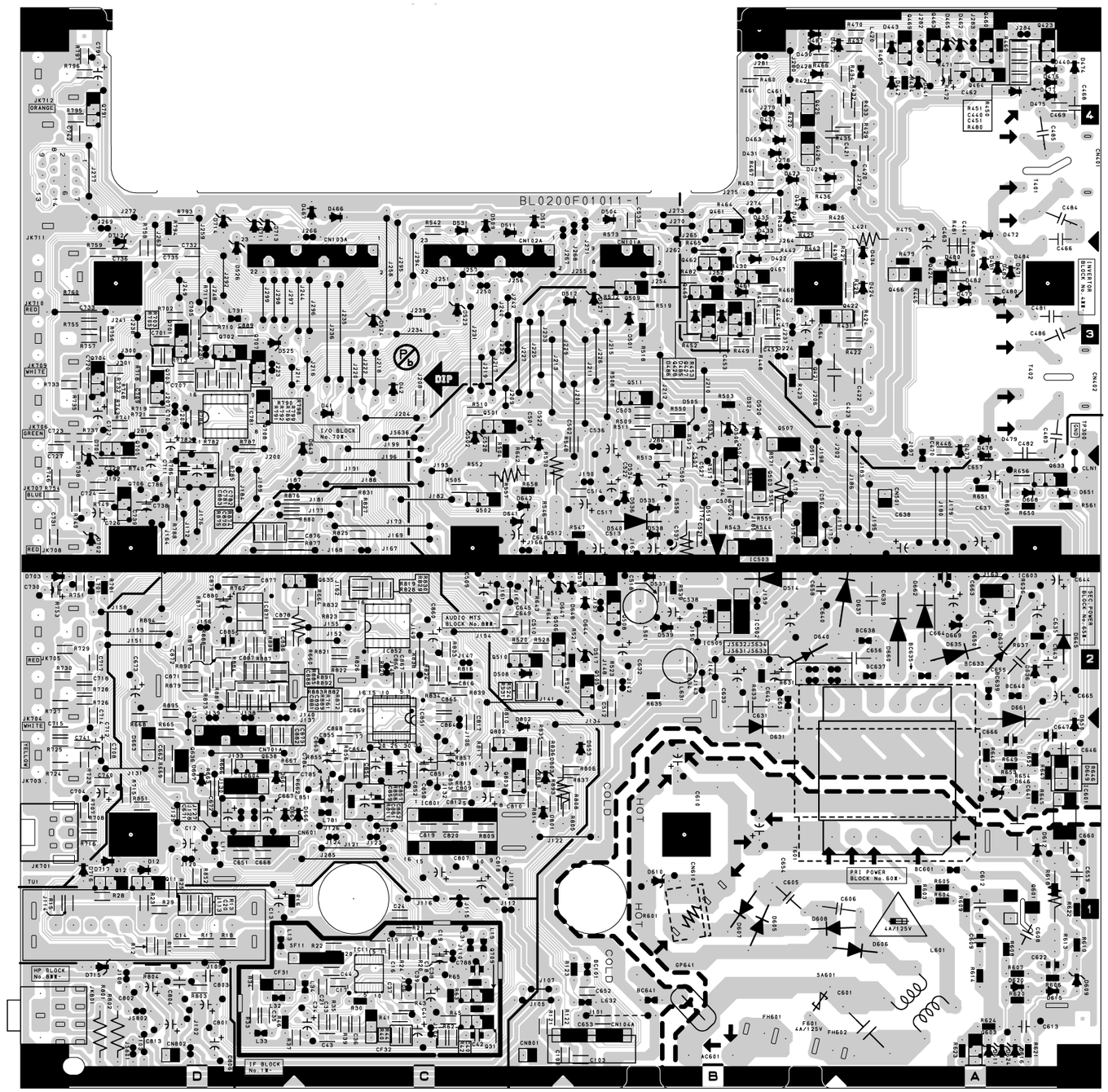
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A, 125V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE 4A, 125V.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

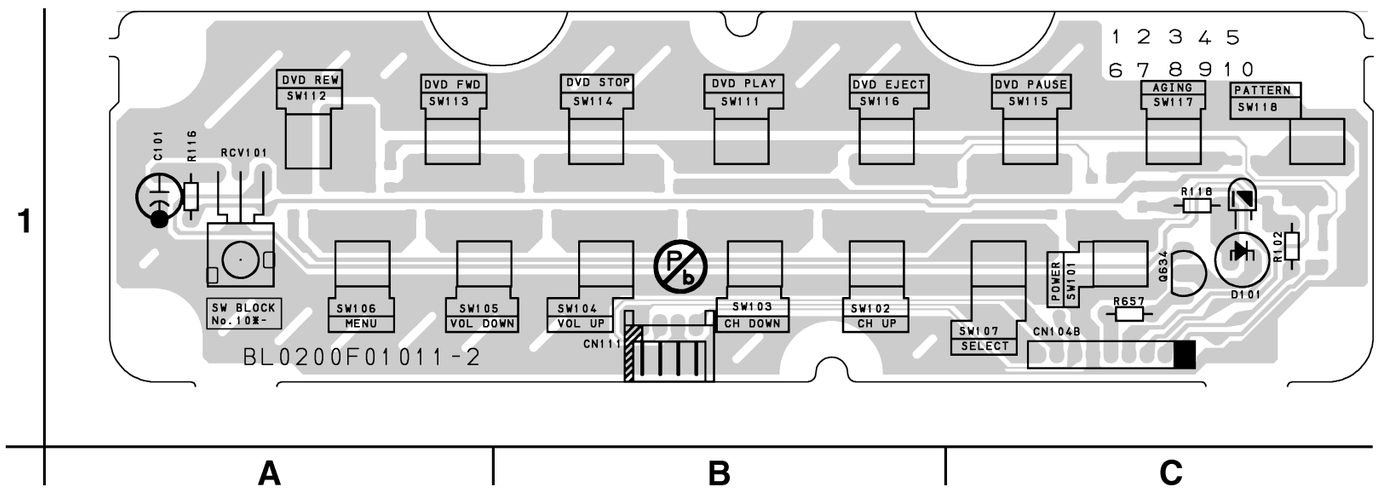
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



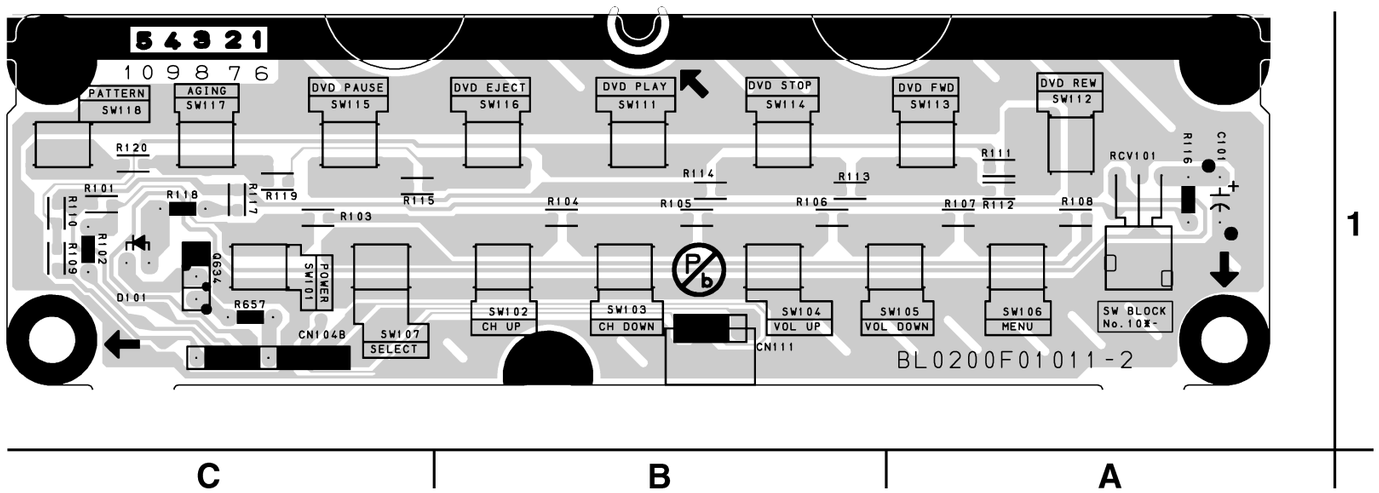
MAIN CBA

Ref No.	Position	Ref No.	Position
IC		TRANSISTORS	
IC11	C-1	Q505	B-2
IC502	B-2	Q506	C-2
IC503	B-2	Q507	B-3
IC504	B-2	Q508	B-2
IC505	B-2	Q509	B-3
IC601	A-1	Q510	C-2
IC603	A-2	Q511	B-3
IC781	D-3	Q512	C-2
IC801	C-1	Q513	B-2
IC851	C-1	Q601	A-1
IC852	C-2	Q603	A-1
TRANSISTORS		Q633	A-2
Q31	C-1	Q701	D-3
Q421	B-3	Q702	D-3
Q422	A-3	Q703	D-3
Q423	A-4	Q704	D-3
Q424	A-3	Q705	D-3
Q425	B-4	Q706	D-2
Q426	B-4	Q707	D-3
Q427	B-3	Q708	D-3
Q428	B-3	Q709	C-1
Q460	A-4	Q802	C-1
Q461	B-4	Q803	C-1
Q462	B-3	CONNECTORS	
Q463	A-4	CN101A	B-4
Q464	A-4	CN102A	C-4
Q466	A-3	CN103A	C-4
Q467	B-3	CN104A	B-1
Q468	B-3	CN401	A-4
Q469	A-4	CN402	A-3
Q501	C-3	CN801	C-1
Q502	C-2	CN802	D-1
Q503	B-2	TESTPOINT	
Q504	B-2	TP300	A-3

Function CBA Top View



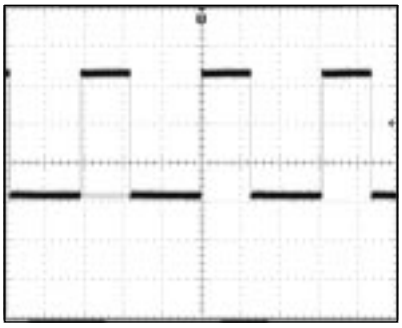
Function CBA Bottom View



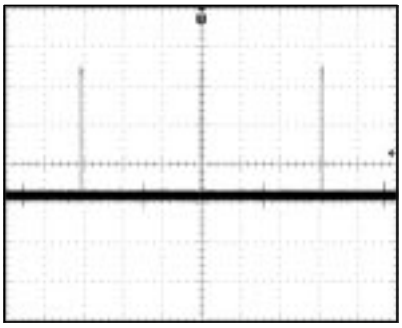
WAVEFORMS

WF1 ~ WF12 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

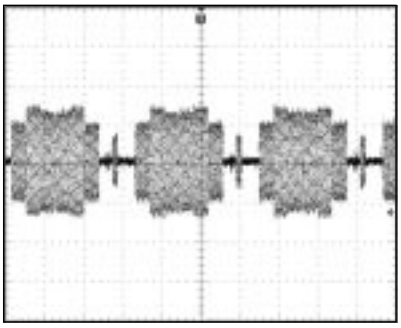
Input: NTSC Color Bar Signal (with 1kHz Audio Signal)



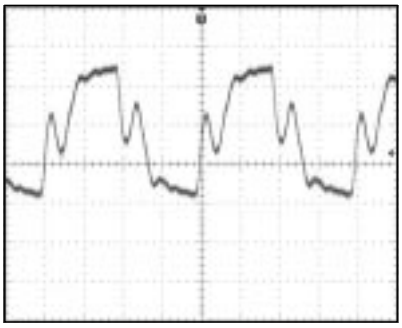
WF1 1DIV: 1.0V 10µs
R396



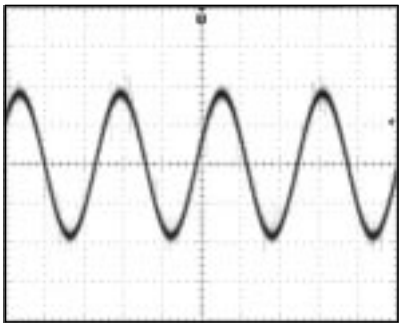
WF5 1DIV: 1.0V 10µs
R398



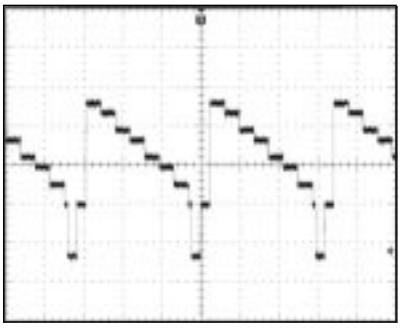
WF9 1DIV: 200mV 20µs
Pin 5 of CN103A



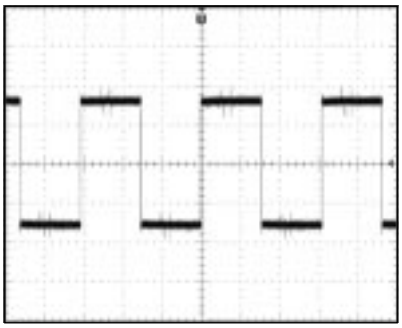
WF2 1DIV: 1.0V 20ns
R365



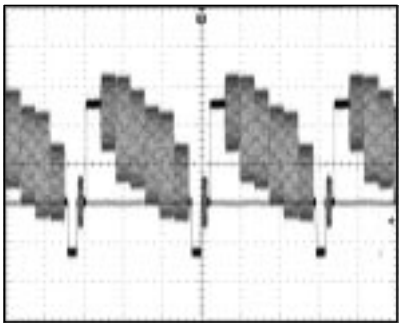
WF6 1DIV: 100mV 400 µs
Pin 14 of IC801



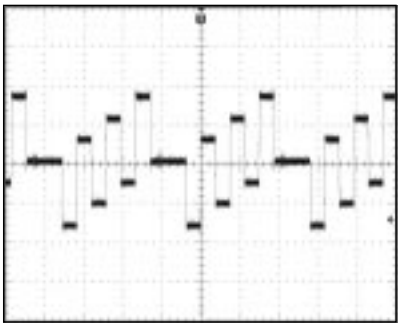
WF10 1DIV: 200mV 20µs
Q704 Emitter



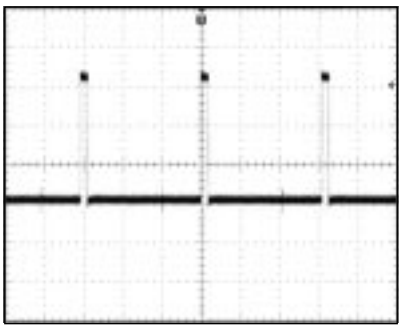
WF3 1DIV: 1.0V 20µs
Pin 43 of CN401A



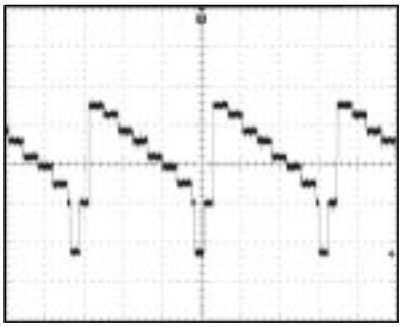
WF7 1DIV: 200mV 20µs
Pin 1 of CN103A



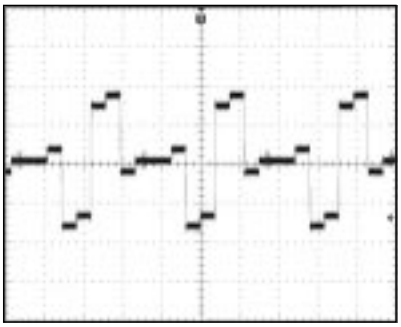
WF11 1DIV: 200mV 20µs
Q705 Emitter



WF4 1DIV: 1.0V 10µs
Pin 44 of CN401A

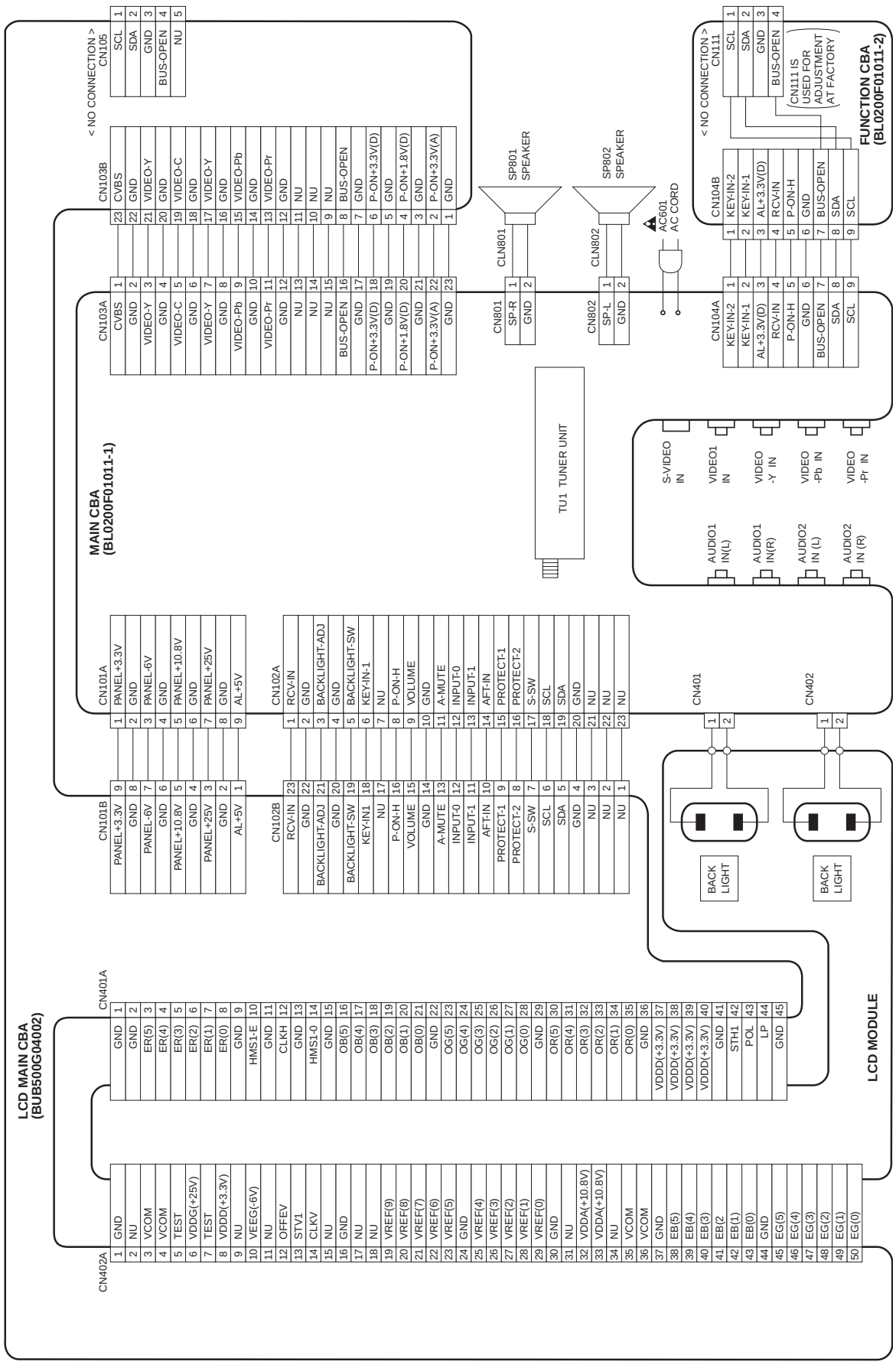


WF8 1DIV: 200mV 20µs
Pin 3 of CN103A



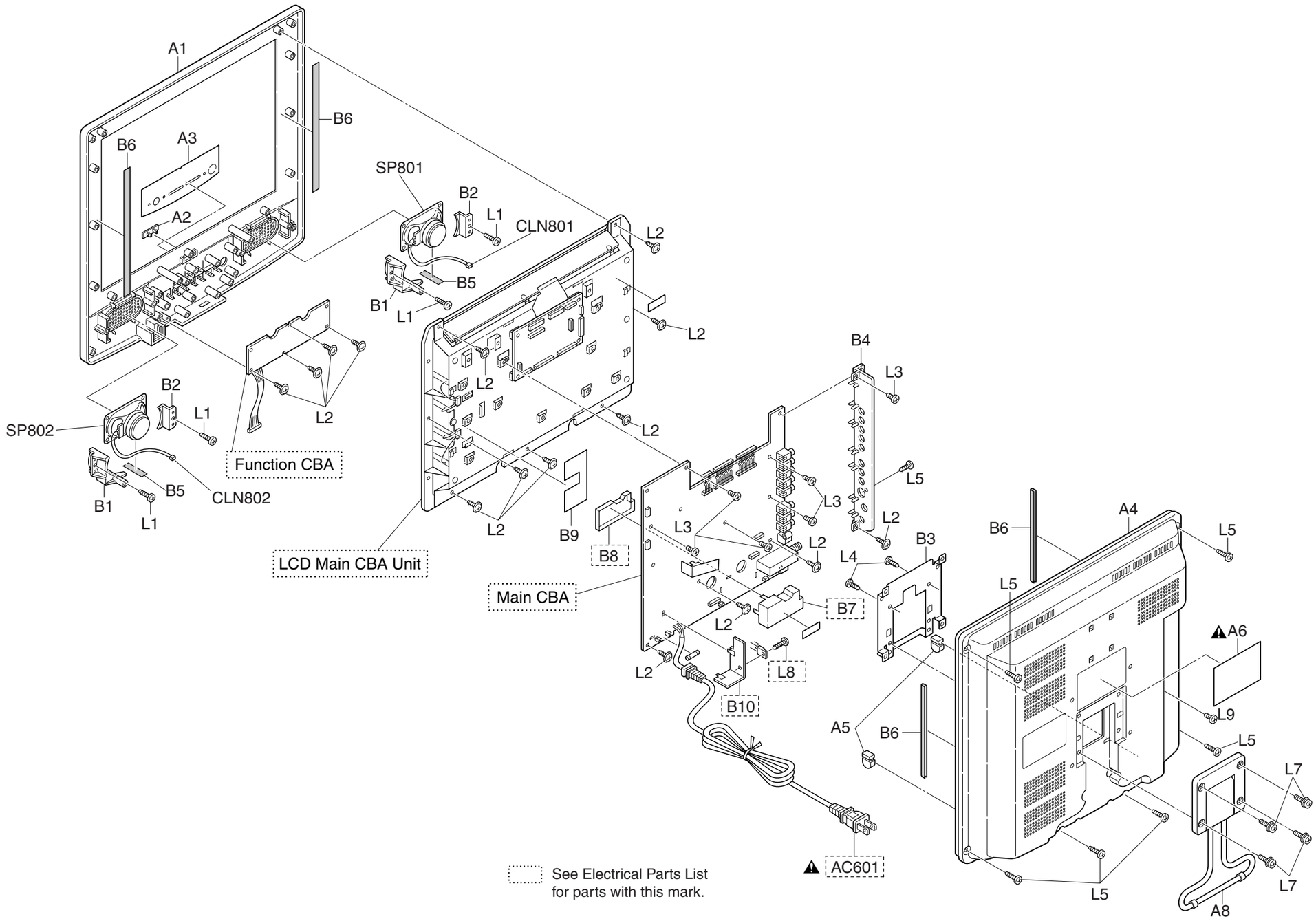
WF12 1DIV: 200mV 20µs
Q706 Emitter

WIRING DIAGRAM

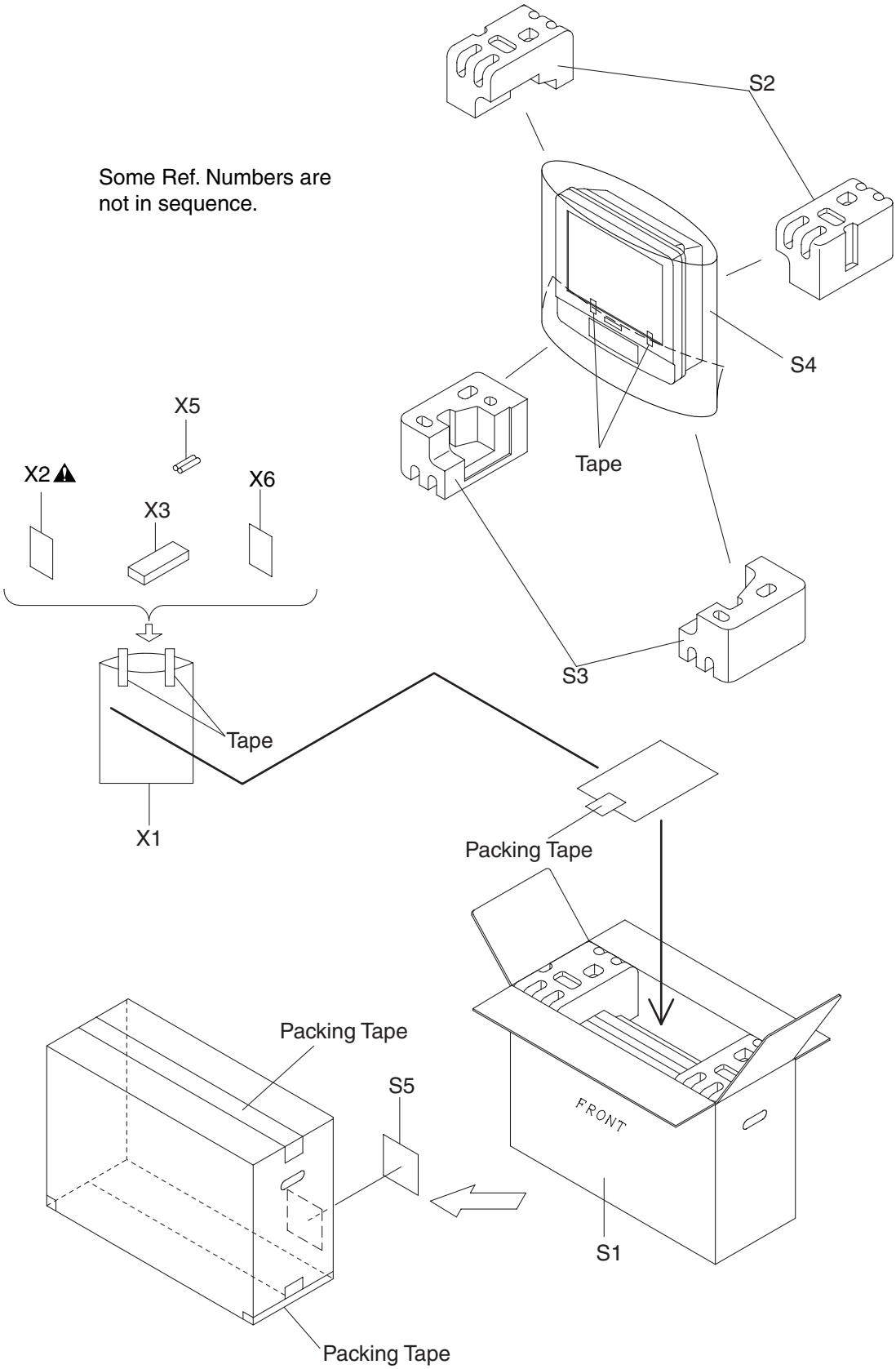


EXPLODED VIEWS

Cabinet



Packing


Some Ref. Numbers are not in sequence.
S2
S4
Tape
X5
X2 ⚠
X6
X3
S3
Tape
X1
Packing Tape
Packing Tape
S5
FRONT
S1
Packing Tape

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE:
Parts that are not assigned part numbers (---------) are not available.

Ref. No.	Description	Part No.
A1	FRONT CABINET L0201UB	0EM201816
A2	BRAND BADGE L0200UASYLVANIA	0EM409019
A3	CONTROL PLATE L0201UB	0EM302073
A4	REAR CABINET L0200UA	0EM000833
A5	RUBBER FOOT L0200UA	0EM302002
A6⚠	RATING LABEL L0201UB	---------
A8	PHOTO STAND ASSEMBLY L0114UE	0EMN02343
B1	SPEAKER HOLDER L L0200UA	0EM302000
B2	SPEAKER HOLDER R L0200UA	0EM408728
B3	STAND HOLDER L0200UA	0EM301999
B4	JACK HOLDER L0200UA	0EM101413
B5	CLOTH(10X30XT0.5) B5900UA	0EM404486
B6	CLOTH(10X190XT0.3) L0200UA	1EM420019
B9	INSULATION PLATE L0200UA	0EM408977A
B11	LABEL CRITICAL PARTS WARNING B8007C3:EM41210	24LH199
CLN801	WIRE ASSEMBLY WX1L0200-002	WX1L0200-002
CLN802	WIRE ASSEMBLY	WX1L9200-001
L1	SCREW, P-TIGHT 3X12 BIND HEAD+	GBMP3120
L2	SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
L3	SCREW, C-TIGHT M3X7 BIND HEAD	GBMC3070
L4	SCREW, P-TIGHT M3X6 BIND HEAD+	GBMP3060
L5	SCREW, P-TIGHT 3X12 BIND HEAD+ BLK	GBKP3120
L7	DOUBLE SEMS SCREW M4X9 L0130UA	0EM408146
L9	SCREW, C-TIGHT M3X6 BIND HEAD +	GBKC3060
SP801	SPEAKER S0407F10	DSD0807XQ002
SP802	SPEAKER S0407F10	DSD0807XQ002
PACKING		
S1	CARTON L0201UB	0EM408997
S2	STYROFOAM TOP L0200UA	0EM000895
S3	STYR0FOAM BOTTOM L0200UA	0EM000896
S4	SET BAG L0110UA	0EM301908
S5	SERIAL NO. LABEL L9750UA	---------
ACCESSORIES		
X1	BAG POLYETHYLENE 235X365XT0.03	0EM408420
X2⚠	OWNER'S MANUAL L0201UB	0EMN02392
X3	REMOTE CONTROL 192/ERC001/NE300UD	NE300UD
X5	DRY BATTERY R6P/2S	XB0M451T0001
X5	DRY BATTERY(SUNRISE) R6SSE/2S	XB0M451MS002
X6	SHEET RETURN STOP L6101UB	0EM407077

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

3. The Capacitors (C466, C468, C481, C482, C483, C484, C485 and C486) are either type A or type B. These two types are exchangeable and can be equally used whichever the model is. The difference between type A and type B is shown in the table below.

Ref. No.	Type A		Type B	
C466	PCB JUMPER P7.5MM	JW7.5	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C468	PCB JUMPER P7.5MM	JW7.5	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C481	PCB JUMPER P7.5MM	JW7.5	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C482	PCB JUMPER P7.5MM	JW7.5	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C483	CERAMIC CAP. CH D 5pF/3KV	CCD3FDPCH5R0	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C484	CERAMIC CAP. CH D 5pF/3KV	CCD3FDPCH5R0	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C485	CERAMIC CAP. CH D 5pF/3KV	CCD3FDPCH5R0	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C486	CERAMIC CAP. CH D 5pF/3KV	CCD3FDPCH5R0	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100

LCD MAIN CBA & LIQUID CRYSTAL PANEL UNIT

Ref. No.	Description	Part No.
	LCD MAIN CBA & LIQUID CRYSTAL PANEL UNIT	0FSA00115

MMA CBA

Ref. No.	Description	Part No.
	MMA CBA Consists of the following:	0ESA06130
	MAIN CBA	----------
	FUNCTION CBA	----------

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following:	----------
	CAPACITORS	
C12	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C13	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMASSL4R7
C14	CHIP CERAMIC CAP. CH J 1000pF/25V	CHD1EJ3CH102
C15	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C16	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C17	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C18	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C19	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C20	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C21	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C34	ELECTROLYTIC CAP. 1μF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C35	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C36	CHIP CERAMIC CAP. CH J 1000pF/25V	CHD1EJ3CH102
C37	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C38	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMASSL101
C39	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C40	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C41	ELECTROLYTIC CAP. 0.47μF/50V M H7	CE1JMASSLR47
C42	CERAMIC CAP.(AX) Y M 0.01μF/16V	CCA1CMT0Y103
C43	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C44	CHIP CERAMIC CAP. CH J 12pF/50V	CHD1JJ3CH120
C421	PP CAP. 0.12μF/250V J	CT2E124MS041
C423	PP CAP. 0.12μF/250V J	CT2E124MS041
C440	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C441	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C451	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C452	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C453	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C461	CERAMIC CAP.(AX) B K 0.1μF/50V	CA1J104TU011
C462	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C463	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMASSL101
C464	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C469	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C480	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C501	ELECTROLYTIC CAP. 22μF/50V M H7	CE1JMASSL220
C502	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C503	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C505	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C506	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C507	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C509	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMASSL101
C510	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C512	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C513	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C514	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C517	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C518	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C521	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C522	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMASSL221
C524	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C527	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C528	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103

Ref. No.	Description	Part No.
C533	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C536	ELECTROLYTIC CAP. 330μF/6.3V M H7	CE0KMASSL331
C538	ELECTROLYTIC CAP. 1μF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C539	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C601⚠	METALLIZED FILM CAP. 0.1μF/250V or	CT2E104MS037
⚠	FILM CAP.(MP) 0.1μF/250V K or	CT2E104DC011
⚠	METALLIZED FILM CAP. 0.1μF/275V K or	CT2E104HJE06
⚠	LINE ACROSS CAP. 0.1U/250V	CT2E104DC015
C605	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZP0F103
	CERAMIC CAP. 0.01μF/AC250V or	CCD2EZA0F103
	CERAMIC CAP. E Z 0.01μF/500V	CCD2JZP0E103
C606	CERAMIC CAP. F Z 0.01μF/500V or	CCD2JZP0F103
	CERAMIC CAP. 0.01μF/AC250V or	CCD2EZA0F103
	CERAMIC CAP. E Z 0.01μF/500V	CCD2JZP0E103
C608	CERAMIC CAP. B K 1000pF/2KV or	CCD3DKP0B102
	CERAMIC CAP. B K 1000pF/2KV or	CA3D102MR030
	CERAMIC CAP. B K 1000pF/2KV	CCD3DKD0B102
C610⚠	ELECTROLYTIC CAP. 100μF/200V M	CE2DMZPDL101
C612	FILM CAP.(P) 0.01μF/50V J or	CMA1JJS00103
	FILM CAP.(P) 0.01μF/50V J	CA1J103MS029
C613	FILM CAP.(P) 0.068μF/50V J or	CMA1JJS00683
	FILM CAP.(P) 0.068μF/50V J	CA1J683MS029
C632	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C633	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C635	ELECTROLYTIC CAP. 470μF/10V M or	CE1AMASTL471
	ELECTROLYTIC CAP. 470μF/10V M	CE1AMASDL471
C637⚠	ELECTROLYTIC CAP. 2200μF/6.3V M or	CE0KMZPDL222
⚠	ELECTROLYTIC CAP. 2200μF/6.3V M	CE0KMZNTL222
C638⚠	ELECTROLYTIC CAP. 2200μF/25V M or	CE1EMZPDL222
⚠	ELECTROLYTIC CAP. 2200μF/25V M	CE1EMZNTL222
C640⚠	ELECTROLYTIC CAP. 2200μF/25V M or	CE1EMZPDL222
⚠	ELECTROLYTIC CAP. 2200μF/25V M	CE1EMZNTL222
C641⚠	SAFETY CAP. 4700pF/250V KX	CA2E472MR050
C642⚠	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C644⚠	ELECTROLYTIC CAP. 100μF/50V M or	CE1JMASTL101
⚠	ELECTROLYTIC CAP. 100μF/50V M	CE1JMASDL101
C645⚠	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C646	FILM CAP.(P) 0.0082μF/50V J or	CMA1JJS00822
	FILM CAP.(P) 0.0082μF/50V J	CA1J822MS029
C648	ELECTROLYTIC CAP. 1μF/50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMASSL1R0
C649	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C650⚠	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASTL471
⚠	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C651	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C652	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C653	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C654⚠	ELECTROLYTIC CAP. 100μF/200V M	CE2DMZPDL101
C657	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C658	CERAMIC CAP. B K 470pF/1KV	CCD3AKA0B471
C659	FILM CAP.(P) 0.022μF/50V J or	CMA1JJS00223
	FILM CAP.(P) 0.022μF/50V J	CA1J223MS029
C660	FILM CAP.(P) 0.0068μF/50V J or	CMA1JJS00682
	FILM CAP.(P) 0.0068μF/50V J	CA1J682MS029
C673	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASTL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C701	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C703	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C704	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C705	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103

Ref. No.	Description	Part No.
C707	CHIP CERAMIC CAP. CH J 1000pF/25V	CHD1EJ3CH102
C708	CHIP CERAMIC CAP. CH J 1000pF/25V	CHD1EJ3CH102
C709	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C711	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C712	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C714	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C715	CHIP CERAMIC CAP.(1608) B K 5600pF/50V	CHD1JK30B562
C717	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C718	CHIP CERAMIC CAP.(1608) B K 5600pF/50V	CHD1JK30B562
C720	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C722	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C724	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C726	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C728	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C730	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C732	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C733	CHIP CERAMIC CAP.(1608) B K 5600pF/50V	CHD1JK30B562
C735	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C736	CHIP CERAMIC CAP.(1608) B K 5600pF/50V	CHD1JK30B562
C738	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C739	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C740	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C741	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C781	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C782	CERAMIC CAP.(AX) B K 0.1μF/50V	CA1J104TU011
C784	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C785	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C786	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMASSL470
C788	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C801	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C802	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C803	FILM CAP.(P) 0.1μF/50V J or	CMA1JJS00104
	FILM CAP.(P) 0.1μF/50V J	CA1J104MS029
C804	FILM CAP.(P) 0.1μF/50V J or	CMA1JJS00104
	FILM CAP.(P) 0.1μF/50V J	CA1J104MS029
C806	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C807	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C809	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C810	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C811	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMASSL101
C812	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C813	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C816	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C817	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C818	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C819	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C820	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C851	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C852	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C853	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMASSL2R2
C854	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C855	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C856	CHIP CERAMIC CAP.(1608) B K 0.33μF/10V	CHD1AK30B334
C857	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMASSL2R2
C858	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMASSL2R2
C859	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMASSL4R7
C860	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C861	ELECTROLYTIC CAP. 100μF/6.3V M H7	CE0KMASSL101
C862	CERAMIC CAP.(AX) Y M 0.01μF/16V	CCA1CMT0Y103
C863	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMASSL2R2
C864	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223

Ref. No.	Description	Part No.
C865	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C866	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C867	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C868	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C869	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C883	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
CAPACITOR TYPE A		
C466	PCB JUMPER P7.5MM	JW7.5
C468	PCB JUMPER P7.5MM	JW7.5
C481	PCB JUMPER P7.5MM	JW7.5
C482	PCB JUMPER P7.5MM	JW7.5
C483	CERAMIC CAP. CH D 5pF/3KV	CCD3FDPCH5R0
C484	CERAMIC CAP. CH D 5pF/3KV	CCD3FDPCH5R0
C485	CERAMIC CAP. CH D 5pF/3KV	CCD3FDPCH5R0
C486	CERAMIC CAP. CH D 5pF/3KV	CCD3FDPCH5R0
CAPACITOR TYPE B		
C466	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C468	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C481	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C482	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C483	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C484	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C485	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
C486	CERAMIC CAP. SL D 10pF/3KV	CCD3FDASL100
CONNECTORS		
CN101A	TWG CONNECTOR 09P TWG-P09P-A1	J3TWA09TG001
CN102A	TWG CONNECTOR 23P TWG-P23P-A1	J3TWA23TG001
CN103A	TWG CONNECTOR 23P TWG-P23P-A1	J3TWA23TG001
CN104A	PH CONNECTOR, SIDE 9P S9B-PH-K-S	J3PHC09JG004
CN401	BACK LIGHT CONNECTOR 1717369-1	JB17D02AP001
CN402	BACK LIGHT CONNECTOR 1717369-1	JB17D02AP001
CN801	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002
	STRAIGHT PIN HEADER, 2P 173981-2	1770258
CN802	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002
	STRAIGHT PIN HEADER, 2P 173981-2	1770258
DIODES		
D42	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D422	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D423	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D424	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D427	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D428	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D429	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D430⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D431	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D432	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D433	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D434	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133

Ref. No.	Description	Part No.
	SWITCHING DIODE 1N4148	NDTZ001N4148
D435⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D437⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D440	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D441⚠	ZENER DIODE MTZJT-779.1B or	QDTB0MTZJ9R1
⚠	ZENER DIODE DZ-9.1BSBT265	NDTB0DZ9R1BS
D442⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D443	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D461	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D462	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D463	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D464	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D465	ZENER DIODE MTZJT-7710B or	QDTB00MTZJ10
	ZENER DIODE DZ-10BSBT265	NDTB00DZ10BS
D466	PCB JUMPER D0.6-P5.0	JW5.0T
D467	PCB JUMPER D0.6-P5.0	JW5.0T
D470	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D471	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D472	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D473	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D474	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D475	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D476	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D477	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D478	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D479	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D480	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D481	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D482	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D483	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D484	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D485	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D486	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D487⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148

Ref. No.	Description	Part No.
D501⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D502	ZENER DIODE MTZJT-7727B or	QDTB00MTZJ27
	ZENER DIODE DZ-27BSBT265	NDTB00DZ27BS
D504⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D505	IC:SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
D506	ZENER DIODE MTZJT-775.1B or	QDTB0MTZJ5R1
	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D508	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D509⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D510	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D511⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D512	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D514	DIODE 1N5397-B or	NDLZ001N5397
	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D515	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D517	ZENER DIODE MTZJT-776.2B or	QDTB0MTZJ6R2
	ZENER DIODE DZ-6.2BSBT265	NDTB0DZ6R2BS
D519	DIODE 1N5397-B or	NDLZ001N5397
	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D520	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D521	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D523	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D524	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D525	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D526	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D527	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D534	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D535	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D536	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D537	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D538	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D539	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D540	DIODE 1N5397-B or	NDLZ001N5397
	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D605⚠	DIODE 1N5397-B or	NDLZ001N5397
⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D606⚠	DIODE 1N5397-B or	NDLZ001N5397
⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D607⚠	DIODE 1N5397-B or	NDLZ001N5397
⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206

Ref. No.	Description	Part No.
D608⚠	DIODE 1N5397-B or	NDLZ001N5397
⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D609	ZENER DIODE MTZJT-775.6B or	QDTB0MTZJ5R6
	ZENER DIODE DZ-5.6BSBT265	NDTB0DZ5R6BS
D611⚠	ZENER DIODE MTZJT-7722B or	QDTB00MTZJ22
⚠	ZENER DIODE DZ-22BSBT265	NDTB00DZ22BS
D612	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D615⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D616⚠	ZENER DIODE MTZJT-7733B or	QDTB00MTZJ33
⚠	ZENER DIODE DZ-33BSBT265	NDTB00DZ33BS
D620	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D624	ZENER DIODE MTZJT-7733B or	QDTB00MTZJ33
	ZENER DIODE DZ-33BSBT265	NDTB00DZ33BS
D631⚠	DIODE FR154 or	NDLZ000FR154
⚠	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D633⚠	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
⚠	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D635⚠	SCHOTTKY BARRIER DIODE ERC81-004	QDPZERC81004
D636	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D637⚠	SCHOTTKY BARRIER DIODE ERC84-009	QDLZERC84009
D640	DIODE FR104-B	NDLZ000FR104
D641	ZENER DIODE MTZJT-7736B or	QDTB00MTZJ36
	ZENER DIODE DZ-36BSBT265	NDTB00DZ36BS
D642⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D643⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D644⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D645⚠	DIODE FR154 or	NDLZ000FR154
⚠	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D646⚠	DIODE 1ZC43 or	QDQZ0001ZC43
⚠	ZENER DIODE RD43F	QDQZ000RD43F
D647⚠	ZENER DIODE MTZJT-7739B or	QDTB00MTZJ39
⚠	ZENER DIODE DZ-39BSBT265	NDTB00DZ39BS
D648⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D649⚠	IC:SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
D650	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D651	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D653⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148	NDTZ001N4148
D660⚠	SCHOTTKY BARRIER DIODE ERC84-009	QDLZERC84009
D668	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D669⚠	ZENER DIODE MTZJT-775.1B or	QDTB0MTZJ5R1
⚠	ZENER DIODE DZ-5.1BSBT265	NDTB0DZ5R1BS
D701	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D702	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D703	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS
D715	ZENER DIODE MTZJT-778.2B or	QDTB0MTZJ8R2
	ZENER DIODE DZ-8.2BSBT265	NDTB0DZ8R2BS

Ref. No.	Description	Part No.
D716	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D717	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D801	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D802	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148	NDTZ001N4148
D803	ZENER DIODE MTZJT-776.8B or	QDTB0MTZJ6R8
	ZENER DIODE DZ-6.8BSBT265	NDTB0DZ6R8BS
	ICS	
IC11	IC:VIF/SIF M61113FP	QSZBA0SHT019
IC502	VOLTAGE REGULATOR PQ033EF01SZ	QSZBA0SSH014
IC503	VOLTAGE REGULATOR PQ070XF01SZ	QSZBA0SSH026
IC504	VOLTAGE REGULATOR PQ070XF01SZ	QSZBA0SSH026
IC505	IC PST600L	QSBLA0TMM018
IC601⚠	PHOTOCOUPLER PS2501-1W or	QPEW0PS25011
⚠	PHOTO COUPLER PS2501-1L or	QPEL0PS25011
⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC603⚠	VOLTAGE REGULATOR KIA7805API or	NSBBA0SJY011
⚠	VOLTAGE REGULATOR KA7805A	NSZBA0SF3052
IC781	IC TC4053BF(EL.N) or	QSZBA0TTS131
	IC:ANALOG MULTIPLEXERS CD4053BCSJX or	NSZBA0TF3071
	IC:ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
IC801	IC AN17812A	QSZBA0SMS017
IC851	IC:MTS DECORDER AN5832SA-E1	QSZBA0TMS003
IC852	IC:SWITCHING TC4052BF(EL) or	QSZBA0TTS096
	IC:SWITCHING CD4052BCSJX or	NSZBA0TF3079
	IC:SWITCHING CD4052BNSR	NSZBA0TTY091
	COILS	
L11	INDUCTOR 22µH-K-5FT or	LLARKBSTU220
	INDUCTOR 22µH-K	LLARKDQKA220
L13	PCB JUMPER D0.6-P5.0	JW5.0T
L15	INDUCTOR 100µH-J-26T or	LLAXJATTU101
	INDUCTOR 100µH-K-26T	LLAXKDTKA101
L31	INDUCTOR 22µH-K-5FT or	LLARKBSTU220
	INDUCTOR 22µH-K	LLARKDQKA220
L32	INDUCTOR 15µH-J-26T or	LLAXJATTU150
	INDUCTOR 15µH-K-26T	LLAXKDTKA150
L33	INDUCTOR 18µH-J-26T or	LLAXJATTU180
	INDUCTOR 18µH-K-26T	LLAXKDTKA180
L34	INDUCTOR 82µH-J-26T or	LLAXJATTU820
	INDUCTOR 82µH-K-26T	LLAXKDTKA820
L420	CHOKE COIL ELC10D330E or	LLC330KMS003
	RADIAL LEAD INDUCTORS 33UH	LLARKGQTU330
L421	CHOKE COIL ELC10D330E or	LLC330KMS003
	RADIAL LEAD INDUCTORS 33UH	LLARKGQTU330
L501	CHOKE COIL 47µH-K or	LLBD00PKV007
	POT COIL 47µH K	LLBD00DQE001
L601⚠	LINE FILTER TLF14CB3321R0 or	LLBG00ZTU012
⚠	LINE FILTER 5.0MH 6Y075 or	LLBG00ZKT004
⚠	LINE FILTER LF005 or	LLBG00ZLH001
⚠	LINE FILTER UU10.5-A or	LLBG00ZY2008
⚠	LINE FILTER SA-91213B or	LLBG00ZSA002
⚠	LINE FILTER 6.35MH UU10-002	LLBG00ZKV001
L631	CHOKE COIL 47µH-K or	LLBD00PKV007
	POT COIL 47µH K	LLBD00DQE001
L632	INDUCTOR 22µH-J-26T or	LLAXJATTU220
	INDUCTOR 22µH-K-26T	LLAXKDTKA220
L701	PCB JUMPER D0.6-P5.0	JW5.0T

Ref. No.	Description	Part No.
L781	PCB JUMPER D0.6-P5.0	JW5.0T
L851	PCB JUMPER D0.6-P5.0	JW5.0T
	TRANSISTORS	
Q31	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q421⚠	FET 2SK2229(TP,Q)	QFVZ2SK2229Q
Q422⚠	FET 2SK2229(TP,Q)	QFVZ2SK2229Q
Q423	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q424	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q425⚠	FET 2SK2229(TP,Q)	QFVZ2SK2229Q
Q426⚠	FET 2SK2229(TP,Q)	QFVZ2SK2229Q
Q427	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q428	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q460⚠	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
⚠	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q461	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q462	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785

Ref. No.	Description	Part No.
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q463	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q464	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q466⚠	TRANSISTOR 2SA1931	QQZZ02SA1931
Q467⚠	RES. BUILT-IN TRANSISTOR BA1F4M-T or	QQSZ00BA1F4M
⚠	RES. BUILT-IN TRANSISTOR KRC103M	NQSZ0KRC103M
Q468	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q469	RES. BUILT-IN TRANSISTOR BA1F4M-T or	QQSZ00BA1F4M
	RES. BUILT-IN TRANSISTOR KRC103M	NQSZ0KRC103M
Q501	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q502	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q503	TRANSISTOR 2SD1913(R)	Q2SD1913R***
Q504	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q505	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815

Ref. No.	Description	Part No.
Q506	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q507	TRANSISTOR 2SD1913(R)	Q2SD1913R***
Q508	RES. BUILT-IN TRANSISTOR BA1F4M-T or	QQSZ00BA1F4M
	RES. BUILT-IN TRANSISTOR KRC103M	NQSZ0KRC103M
Q509⚠	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
⚠	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
⚠	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
⚠	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
⚠	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
⚠	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
⚠	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
⚠	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q510	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q511	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q512	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q513	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q601⚠	MOS FET 2SK3561	QFWZ02SK3561
Q603⚠	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
⚠	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q633	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q701	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785

Ref. No.	Description	Part No.
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q702	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q703	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q704	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q705	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q706	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q707	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q708	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815

Ref. No.	Description	Part No.
Q709	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q802	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q803	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC3331(T)-AANP or	2SC3331TZ
	TRANSISTOR 2SC3331(U)-AANP or	2SC3331UZ
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
	RESISTORS	
R11	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R12	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R16	PCB JUMPER D0.6-P5.0	JW5.0T
R17	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R20	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R21	CHIP RES.(1608) 1/10W J 150k Ω	RRXAJR5Z0154
R22	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R24	CHIP RES.(1608) 1/10W J 68k Ω	RRXAJR5Z0683
R30	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R33	CHIP RES.(1608) 1/10W J 180 Ω	RRXAJR5Z0181
R34	CHIP RES.(1608) 1/10W J 180 Ω	RRXAJR5Z0181
R37	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R41	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R43	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R45	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R46	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R63	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R65	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R121	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R122	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R123	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R420	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R421	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R422	CHIP RES.(1608) 1/10W J 47 Ω	RRXAJR5Z0470
R423	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R424	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R425	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R426	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R427	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R428	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R429	CHIP RES.(1608) 1/10W J 47 Ω	RRXAJR5Z0470
R430	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R431	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R432	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R433	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R434	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R435	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472

Ref. No.	Description	Part No.
R436	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R437	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R438	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R439	CHIP RES.(1608) 1/10W J 56 Ω	RRXAJR5Z0560
R440	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R441	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R442	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R443	CHIP RES.(1608) 1/10W J 56 Ω	RRXAJR5Z0560
R444	CHIP RES.(1608) 1/10W J 33 Ω	RRXAJR5Z0330
R445	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R446	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R447	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R448	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R449	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R450	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R451	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R452	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R453	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R454	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R460	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R461	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R462	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R463	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R464	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R465	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R466	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R467	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R468	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R469	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R470	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R471	CHIP RES.(1608) 1/10W J 47 Ω	RRXAJR5Z0470
R472	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R475	METAL OXIDE FILM RES. 1W J 270 Ω or	RN01271ZU001
	METAL OXIDE FILM RES. 1W J 270 Ω	RN01271DP003
R479	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R480	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R481	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R482	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R483	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R484	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R503	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R504	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R505	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R508	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R509	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R510	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R511	CHIP RES.(1608) 1/10W F 13k Ω	RRXAFR5H1302
R512	CHIP RES.(1608) 1/10W F 3.9k Ω	RRXAFR5H3901
R513	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R514	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R517	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R518⚠	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R519⚠	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R520	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R521	CARBON RES. 1/4W J 68 Ω	RCX4JATZ0680
R522	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R523	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R524	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R528	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R531	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R539	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182

Ref. No.	Description	Part No.
R540	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R543	CHIP RES.(1608) 1/10W F 1.8k Ω	RRXAFR5H1801
R544	CHIP RES.(1608) 1/10W F 3.9k Ω	RRXAFR5H3901
R546	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R547	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R548	METAL RESISTOR(STRAIGHT) 2W J 390 Ω or	RN02JZQZ0391
	FIXED METAL OXIDE FILM RES. 2W J 390 Ω or	RN02JZPZ0391
	METAL OXIDE FILM RES 2W J 390 Ω	RN02JZLZ0391
R550	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R552	METAL OXIDE RES. 1W J 1.0 Ω or	RN01JZQZ01R0
	METAL FILM RES.(STRAIGHT)1W J 1 Ω or	RN01JZPZ01R0
	METAL OXIDE FILM RES 1W J 1.0 Ω	RN01JZLZ01R0
R555	CHIP RES.(1608) 1/10W F 9.1k Ω	RRXAFR5H9101
R556	CHIP RES.(1608) 1/10W F 5.6k Ω	RRXAFR5H5601
R557	CHIP RES.(1608) 1/10W J 3.9k Ω	RRXAJR5Z0392
R558	FIXED METAL OXIDE FILM RES. 2W J 2.2 Ω or	RN02JZQZ02R2
	FIXED METAL OXIDE FILM RES. 2W J 2.2 Ω or	RN02JZPZ02R2
	METAL OXIDE FILM RES. 2W J 2.2 Ω	RN02JZLZ02R2
R561	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R570	CHIP RES.(1608) 1/10W J 5.6k Ω	RRXAJR5Z0562
R571	METAL FILM RES.(STRAIGHT)2W J 1.0 Ω or	RN02JZQZ01R0
	METAL FILM RES.(STRAIGHT)2W J 1.0 Ω or	RN02JZPZ01R0
	METAL OXIDE FILM RES. 2W J 1.0 Ω	RN02JZLZ01R0
R572	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R573	CHIP RES.(1608) 1/10W J 120k Ω	RRXAJR5Z0124
R601⚠	CEMENT RES. 3W K 1.2 Ω or	RW031R2PG007
⚠	CEMENT RESISTOR 3W K 1.2 Ω	RW031R2PAK10
R603⚠	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R604	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R605	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R606	PCB JUMPER D0.6-P5.0	JW5.0T
R607	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R608	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R609	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R610	PCB JUMPER D0.6-P5.0	JW5.0T
R613⚠	METAL OXIDE FILM RES. 2W J 0.68 Ω or	RN02R68ZU001
⚠	METAL OXIDE FILM RES. 2W J 0.68 Ω	RN02R68DP004
R618	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R620	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R621	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R622	PCB JUMPER D0.6-P5.0	JW5.0T
R623	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R633	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R634⚠	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R635	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R636	PCB JUMPER D0.6-P5.0	JW5.0T
R637	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R642⚠	CHIP RES.(1608) 1/10W J 27k Ω	RRXAJR5Z0273
R645	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R646	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R647	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R648	CARBON RES. 1/4W G 1.8k Ω	RCX4GATZ0182
R649	CARBON RES. 1/4W G 1.2k Ω	RCX4GATZ0122
R650	CARBON RES. 1/4W G 1.5k Ω	RCX4GATZ0152
R651	CARBON RES. 1/4W G 1.8k Ω	RCX4GATZ0182
R652	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R653	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R654	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R655	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R656	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R658	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122

Ref. No.	Description	Part No.
R702	CHIP RES.(1608) 1/10W J 390 Ω	RRXAJR5Z0391
R703	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R705	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R707	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R708	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R710	CHIP RES.(1608) 1/10W J 390 Ω	RRXAJR5Z0391
R711	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R713	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R715	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R716	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R718	CHIP RES.(1608) 1/10W J 390 Ω	RRXAJR5Z0391
R719	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R721	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R723	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R724	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R725	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R726	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R727	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R728	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R729	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R730	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R732	CHIP RES.(1608) 1/10W J 390 Ω	RRXAJR5Z0391
R733	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R735	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R737	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R738	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R740	CHIP RES.(1608) 1/10W J 390 Ω	RRXAJR5Z0391
R741	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R743	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R745	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R746	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R748	CHIP RES.(1608) 1/10W J 390 Ω	RRXAJR5Z0391
R749	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R751	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R753	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R754	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R755	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R756	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R757	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R758	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R759	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R760	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R781	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R782	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R784	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R785	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R786	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R788	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R789	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R791	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R798	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R799	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R801	CARBON RES. 1/2W J 100 Ω or	RCX2JZQZ0101
	CARBON RES. 1/2W J 100 Ω or	RCX2JZPZ0101
	CARBON RES. 1/2W J 100 Ω	RCX2101KA013
R802	CARBON RES. 1/2W J 100 Ω or	RCX2JZQZ0101
	CARBON RES. 1/2W J 100 Ω or	RCX2JZPZ0101
	CARBON RES. 1/2W J 100 Ω	RCX2101KA013
R803	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R804	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R805⚠	FIXED METAL OXIDE FILM RES. 3W J 12 Ω or	RN03JZQZ0120
⚠	FIXED MEYAL OXIDE FILM RES. 3W J 12 Ω or	RN03JZPZ0120
⚠	METAL OXIDE FILM RES 3W J 12 Ω	RN03JZLZ0120
R806	CHIP RES.(1608) 1/10W J 820 Ω	RRXAJR5Z0821
R808	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R809	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R810	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R811	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R813	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R814	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R816	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R817	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R818	CHIP RES.(1608) 1/10W J 5.6k Ω	RRXAJR5Z0562
R820	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R821	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R822	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R824	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R825	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R826	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R827	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R829	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R830	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R831	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R833	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R834	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R835	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R836	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R837	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R838	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R839	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R851	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R852	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R855	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R857	CHIP RES.(1608) 1/10W J 180k Ω	RRXAJR5Z0184
R893	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
	MISCELLANEOUS	
AC601⚠	AC CORD LA-2366 or	WAC0172LW006
⚠	AC CORD WAC0172AS006 or	WAC0172AS006
⚠	AC CORD A0A0280-007 or	WAC0172LTE04
⚠	AC CORD PB8K9F9110A-057	WAC0172LW008
B7	SHIELD BOX TOP L0200UA	0EM302060
B8	SHIELD BOX BOTTOM L0200UA	0EM302061
B10	HEAT SINK PIS ASSEMBLY L0200UA	0EM408833
BC101	PCB JUMPER D0.6-P5.0	JW5.0T
BC470	PCB JUMPER D0.6-P5.0	JW5.0T
BC601	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC631	PCB JUMPER D0.6-P5.0	JW5.0T
BC633	PCB JUMPER D0.6-P5.0	JW5.0T
BC635	PCB JUMPER D0.6-P5.0	JW5.0T
BC637	PCB JUMPER D0.6-P5.0	JW5.0T
BC638	PCB JUMPER D0.6-P5.0	JW5.0T
BC639	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC640	PCB JUMPER D0.6-P5.0	JW5.0T
BC641	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
CF31	CERAMIC TRAP 4.5MHz or	FBE455PMR003
	CERAMIC TRAP 4.5MHz	FBE455PMS002
CF32	CERAMIC FILTER SFSRA4M50CF00-B0 or	FBB455PMR004
	CERAMIC FILTER 4.5MHz	FBB455PMS001
CLN1	WIRE ASSEMBLY WX1L0200-003	WX1L0200-003
F601⚠	FUSE 4.00A/125V or	PAGU20CAG402
⚠	FUSE 51MS040L or	PAFC20CHV402

Ref. No.	Description	Part No.
⚠	FUSE STC4A125V U/CT or	PAGE20CW3402
⚠	FUSE 4.00A/125V	PAGG20CNG402
FH601	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078 or	XH01Z00DK001
	HOLDER, FUSE CNT41-0014	1790424
FH602	FUSE HOLDER MSF-015 or	XH01Z00LY001
	FUSE HOLDER FH-V-03078 or	XH01Z00DK001
	HOLDER, FUSE CNT41-0014	1790424
GP641⚠	GAP. FNR-G3.10D	FAZ000LD6005
J113	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
J114	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
J162	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
J208	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
J264	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
J301	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
JK701	Y/C JACK 1P(SW) MDC-070V1-A	JYEL040LY002
JK703	RCA JACK(YELLOW) MTJ-032-06B-20 or	JXRL010LY050
	RCA JACK 1P AV-8.4-9Y	JXRL010RP010
JK704	RCA JACK(WHITE) MTJ-032-06B-22 or	JXRL010LY052
	RCA JACK 1P AV-8.4-9W	JXRL010RP011
JK705	RCA JACK(RED) MTJ-032-06A-21 or	JYRL010LY014
	RCA JACK 1P(RED)WITH SW ITCH AV1-09S-2	JYRL010RP008
JK706	RCA JACK(GREEN) MTJ-032-06B-25	JXRL010LY054
JK707	RCA JACK(BLUE) MTJ-032-06B-28	JXRL010LY057
JK708	RCA JACK(RED) MTJ-032-06B-21 or	JXRL010LY051
	RCA JACK 1P AV-8.4-9R	JXRL010RP006
JK709	RCA JACK(WHITE) MTJ-032-06B-22 or	JXRL010LY052
	RCA JACK 1P AV-8.4-9W	JXRL010RP011
JK710	RCA JACK(RED) MTJ-032-06A-21 or	JYRL010LY014
	RCA JACK 1P(RED)WITH SW ITCH AV1-09S-2	JYRL010RP008
JK801	HEADPHONE JACK MSJ-035-10A B or	JYSL020LY002
	HEADPHONE JACK DP3-26-7-001	JYSL020RP001
JS631	PCB JUMPER D0.6-P5.0	JW5.0T
JS632	PCB JUMPER D0.6-P5.0	JW5.0T
JS636	PCB JUMPER D0.6-P10.0	JW10.0T
L8	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
SA601⚠	SURGE ABSORBER 470V+-10PER or	NVQZ10D471KB
⚠	SURGE ABSORBER CNR-10D471K or	NVQZR10D471K
⚠	SURGE ABSORBER JVR-10N471K	NVQZR10N471K
SF11	SAW FILTER SAFHM45M7VAAZ00B03	FBB456PMR010
T401⚠	INVERTER TRANS ETJV22ZC11BC	LTZ00CPMS001
T402⚠	INVERTER TRANS ETJV22ZC11BC	LTZ00CPMS001
T601⚠	POWER TRANSFOMER 3727S03	LTT00CPKT125
TP300	PCB JUMPER D0.6-P10.0	JW10.0T
TU1	TUNER TEQH9-009A	UTUNNTUAL038

FUNCTION CBA

Ref. No.	Description	Part No.
	FUNCTION CBA Consists of the following:	----------
	CAPACITORS	
C101	ELECTROLYTIC CAP. 47μF/10V M H7	CE1AMASSL470
CN104B	WIRE ASSEMBLY WX1L0200-001	WX1L0200-001
CN111	PH CONNECTOR, SIDE 4P S4B-PH-K-S	J3PHC04JG004
R101	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R102	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R103	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R104	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R105	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R106	CHIP RES.(1608) 1/10W J 2.7k Ω	RRXAJR5Z0272
R107	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R108	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R109	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R110	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R116	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R117	CHIP RES.(1608) 1/10W J 68 Ω	RRXAJR5Z0680
R657	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
SW101	TACT SWITCH SKHHARA010	SST0101AL060
SW102	TACT SWITCH SKHHARA010	SST0101AL060
SW103	TACT SWITCH SKHHARA010	SST0101AL060
SW104	TACT SWITCH SKHHARA010	SST0101AL060
SW105	TACT SWITCH SKHHARA010	SST0101AL060
SW106	TACT SWITCH SKHHARA010	SST0101AL060
SW107	TACT SWITCH SKHHARA010	SST0101AL060
	MISCELLANEOUS	
RCV101	PHOTO LINK MODULE RPM7237-H9	USESJRSRM006